

Framework Action to Set the 2013 Red Snapper Commercial and Recreational Quotas and Modify the Recreational Bag Limit

**Including Draft Environmental Assessment,
Regulatory Impact Review,
and Regulatory Flexibility Act Analysis**



**Framework Action
to the Fishery Management Plan for
the Reef Fish Resources
of the Gulf of Mexico**

Final

March 2013



This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA10NMF4410011.

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COVER SHEET

FRAMEWORK ACTION TO SET THE 2013 RED SNAPPER QUOTAS AND MODIFY RECREATIONAL BAG LIMITS

Including a Draft Environmental Assessment (EA), Regulatory Impact Review (RIR), and
Regulatory Flexibility Act Analysis (RFAA)

Type of Action

☐ Administrative ☐ Legislative
☒ Draft ☐ Final

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ABSTRACT

The proposed actions would set the 2013 quotas for commercial and recreational harvest of red snapper in the Gulf of Mexico. Based on the definition of overfishing adopted in the 2011 Generic Annual Catch Limits/Accountability Measures Amendment, the red snapper stock is not experiencing overfishing. Results from the red snapper update assessment in 2009, and projection updates in 2011 and 2012, indicate that the quotas can be increased consistent with the rebuilding target of biomass at maximum sustainable yield by 2032. Management measures considered in this framework action would adjust the red snapper acceptable biological catch (ABC) from 8.08 million pounds (mp) whole weight to 8.46 mp whole weight for 2013. The commercial and recreational sector quotas are based on the current 51% commercial (4.315 mp) and 49% recreational (4.145 mp) allocation of red snapper and would become the quotas for the respective sectors. This makes the resulting recreational and commercial quotas consistent with goals and objectives of the Council's red snapper rebuilding plan.

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
ALS	accumulated landings system
AM	accountability measures
B	biomass
Council	Gulf of Mexico Fishery Management Council
CZMA	Coastal Zone Management Act
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELMR	Estuarine Living Marine Resources
ESA	Endangered Species Act
F	fishing mortality
FTE	full time equivalent
FMP	Fishery Management Plan
GMFMC	Gulf of Mexico Fishery Management Council
gw	gutted weight
HAPC	Habitat area of particular concern
HBS	headboat survey
IFQ	Individual Fishing Quota
LAPP	Limited Access Privilege Program
logbook	NMFS SEFSC commercial logbook
lq	local quotient
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
NMFS	NOAA's National Marine Fisheries Service
NOS	National Ocean Survey
OFL	overfishing limit
RFAA	Regulatory flexibility act analysis
RIR	Regulatory impact review
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SSC	Scientific and Statistical Committee
TPWD	Texas Parks and Wildlife Department
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

The 2006 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) established new requirements to end and prevent overfishing through the use of annual catch limits (ACLs) and accountability measures (AMs). For red snapper, the National Marine Fisheries Service (NMFS) determined the existing quotas are functionally equivalent to sector ACLs, and the sum of the quotas is functionally equivalent to the stock ACL for red snapper.

Until 1997, the recreational fishing season for red snapper was open year-round, with fishing effort controlled through bag limits and size limits. However, the Sustainable Fisheries Act of 1996 required that the recreational red snapper allocation be treated as a quota. Beginning in 1997, the recreational season was monitored for in-season closures, and from 1997 to 1999, the recreational fishing season for red snapper became progressively shorter (Table 1.1). Due to the economic disruptions that resulted from short-term in-season announcements of quota closures, in 2000 NMFS projected in advance when the quota would be met and set a fixed season of April 21 through October 31. That season was maintained through 2007. In 2008, following a substantial reduction in the quota, NMFS began projecting the starting and ending dates of the recreational season on an annual basis. The 2008 season length was shortened due to the quota reduction, but then increased from 2008 to 2010. From 2010 to present, the season has become progressively shorter despite annual increases in the quota. In addition, overharvests have occurred in every year but one since 2007. The recreational sector exceeded its quota by 1.26 million pounds (mp) whole weight (ww) in 2008 and by 2.17 mp ww in 2009. In 2010, even with an emergency reopening in the fall, the recreational sector underharvested its quota by 1.16 mp ww. The underharvest in 2010 is believed to be due to fisheries closures that were put in place as a result of the Deepwater Horizon MC252 oil spill. Information on the oil spill and the subsequent closures can be found on the Southeast Regional Office's website: (http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm). In 2011, the recreational sector exceeded the quota by 0.73 mp ww. Preliminary estimates for 2012 indicate the recreational quota was exceeded by at least 1.80 mp ww (Linton 2012). Since 2007, the commercial sector became managed under an individual fishing quota (IFQ) (GMFMC 2006) and has underharvested its quota in each of the last 6 years; however, 2012 landings are not finalized yet (Table 1.2).

The 2012 Red Snapper Fall Season and Quota Regulatory Amendment (GMFMC 2012) established a schedule of increasing quotas for 2012 and 2013, but included a provision that stated if the acceptable biological catch (ABC) was exceeded in 2012, the ABC and sector quotas would remain at the 2012 levels unless the best scientific information available determines maintaining the quotas from the previous year is unnecessary.

Because of the 2012 overharvest, the Gulf of Mexico Fishery Management Council's (Council) Scientific and Statistic Committee (SSC) met via webinar in November 2012 to review the recreational sectors quota overage and updated projections (http://gulfcouncil.org/docs/SSC%20Reports/SSC_Summary-webinar-11-2012.pdf). The SSC

determined the ABC could increase for 2013, although not as much as previously intended. The SSC's recommended revised ABC for 2013 is 8.46 mp ww, which would result in a commercial quota of 4.314 mp and a recreational quota of 4.145 mp. This would remain in place until the new stock assessment is completed. A benchmark assessment is currently being conducted for red snapper by the Southeast Data Assessment and Review process (SEDAR 31). It is scheduled for review by the SSC in May 2013, and results are scheduled to be presented to the Council at their June 2013 meeting.

Even with the 2013 quota increase the recreational fishing season is expected to be the same or shorter with the daily 2 red snapper per angler bag limit. As the stock rebuilds the average size of red snapper is increasing. To explore ways to increase the length of the recreational fishing season and decrease daily landings this amendment considers reducing the bag limit.

Table 1.1 Recreational red snapper seasons, quotas, and landings.

Year	Season dates	Number of Days	Recreational Quota	Recreational Landings
1996	January 1 – December 31	365	4.47 mp	4.346 mp
1997	January 1 – November 27	330	4.47 mp	6.008 mp
1998	January 1 – September 30	272	4.47 mp	4.258 mp
1999	January 1 – August 29	240	4.47 mp	3.999 mp
2000	April 21 – October 31	194	4.47 mp	3.932 mp
2001	April 21 – October 31	194	4.47 mp	4.468 mp
2002	April 21 – October 31	194	4.47 mp	5.383 mp
2003	April 21 – October 31	194	4.47 mp	4.847 mp
2004	April 21 – October 31	194	4.47 mp	4.996 mp
2005	April 21 – October 31	194	4.47 mp	4.084 mp
2006	April 21 – October 31	194	4.47 mp	4.021 mp
2007	April 21 – October 31	194	3.185 mp	4.440 mp
2008	June 1 – August 4	65	2.45 mp	3.712 mp
2009	June 1 – August 14	75	2.45 mp	4.625 mp
2010	June 1 – July 23; Oct 1 – Nov. 21 (Fri, Sat., & Sun.)	77	3.403 mp	2.239 mp
2011	June 1 – July 18	48	3.866 mp*	4.603 mp
2012	June 1 – July 15	45	3.959 mp	5.796 mp**

Quotas and landings are in whole weight. *An additional 0.345 mp was added to the original 3.521 mp quota after the season opening. ** Landings for 2012 are preliminary; missing landings were projected based on 2011 landings.

Source: Landings from SEFSC Recreational ACL Dataset (Oct 2012) and 2012 recreational landings are from Linton 2012.

Table 1.2. Commercial red snapper calendar days open, quotas, and landings.

Year	Calendar Days Open	Quota	Landings
1996	65+22=87	4.65 mp	4.31 mp
1997	53+20=73	4.65 mp	4.81 mp
1998	42+30=72	4.65 mp	4.68 mp
1999	45+25=70	4.65 mp	4.88 mp
2000	38+28=66	4.65 mp	4.84 mp
2001	56+23=79	4.65 mp	4.63 mp
2002	64+27=91	4.65 mp	4.78 mp
2003	67+27=94	4.65 mp	4.41 mp
2004	70+35=105	4.65 mp	4.65 mp
2005	80+51=131	4.65 mp	4.10 mp
2006	126	4.65 mp	4.65 mp
2007	365 IFQ	3.315 mp	3.18 mp
2008	366 IFQ	2.55 mp	2.48 mp
2009	365 IFQ	2.55 mp	2.484 mp
2010	365 IFQ	3.542 mp	3.392 mp
2011	365 IFQ	3.664 mp	3.595 mp
2012	366 IFQ	4.121 mp	3.893 mp*

Source: Commercial quotas, landings, and calendar days open from 1996 through 2006 were taken from the Red Snapper 7 Update (2009). From 2009-2012 landings were taken from Linton (2012). * Landings for 2012 are preliminary; missing landings were projected based on 2011 landings.

1.2 Purpose and Need

The purpose of this action is to set 2013 quotas for commercial and recreational harvest of red snapper in the Gulf of Mexico consistent with the red snapper rebuilding plan and to consider modifying the recreational bag limit to extend the number of days in the fishing season. These proposed actions aim to achieve optimum yield in accordance with the red snapper rebuilding plan developed by the Council. The underlying need for this action is driven by the Magnuson-Stevens Act, which requires NMFS and the regional fishery management councils to prevent overfishing while achieving, on a continuing basis, the optimum yield from federally managed fish stocks, to take into account the importance of fishery resources to fishing communities and provide for sustained participation of such communities, and to rebuild stocks that have been determined to be overfished.

1.3 History of Management

This history of management only covers events pertinent to red snapper fishing. A brief history of management was detailed in the February 2010 Regulatory Amendment (GMFMC 2010) and is incorporated herein by reference. A more complete summary of red snapper management can be found in Amendment 27/14 (GMFMC 2007) and in Hood et al. (2007). Information on management of the reef fish fishery as a whole can be obtained by contacting the Council.

Prior to 1997, the recreational red snapper season was open year-round. Catch levels were controlled through minimum size limits and bag limits. The Sustainable Fisheries Act of 1996 required the establishment of quotas for recreational red snapper fishing and commercial fishing that, when reached, result in a prohibition on the retention of fish caught for each sector, respectively, for the remainder of the fishing year. From 1997 through 1999, NMFS implemented the recreational quota requirement through an in-season monitoring process by establishing a quota monitoring team that, through monitoring landings data that were available, plus projecting landings based on past landings patterns, projected closing dates a few weeks in advance.

Additional details regarding the seasons and regulation changes for red snapper are presented in Hood et al. (2007) and summarized in Tables 1.1 and 1.2.

In 1997, the recreational season for red snapper was closed on November 27.

In 1998, the recreational season for red snapper was closed on October 1.

In 1999, the recreational season for red snapper was closed on August 29. An emergency rule temporarily raised the recreational red snapper minimum size limit from 15 to 18 inches total length during June 4 to August 29 in an attempt to slow down the retained harvest rate. Without this emergency rule, the season would have closed on August 5. However, the rule resulted in large increase in dead discards, and the size limit was allowed to revert back to 15 inches the following year.

A February 2000 regulatory amendment (GMFMC 2000) replaced the system of in-season monitoring and closure projections with a fixed season based on a pre-season projection of when the recreational quota would be reached. The season for 2000 and beyond was initially set at April 15 through October 31, with a 16-inch minimum size limit, a 4-fish bag limit, and a zero bag limit of red snapper by the captain and crew of for-hire vessels. Shortly before the regulatory amendment was submitted to NMFS, the Council, at the request of representatives of the for-hire industry, withdrew the zero bag limit proposal for captain and crew. The NMFS recalculated the season length under the revised proposal, and as a result, the regulatory amendment was implemented with a recreational fishing season of April 21 through October 31. This recreational fishing season remained in effect through 2007.

In 2008, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007) revised the rebuilding plan. For the recreational sector, the rule implemented a June 1 through September 30 fishing season in conjunction with a 2.45 mp recreational quota, 16-inch minimum size limit, 2-fish bag limit, and zero bag limit for captain and crew of for-hire vessels. The implementing regulations for this amendment created the June 1 through September 30 season by establishing fixed closed seasons of January 1 through May 31 and October 1 through December 31.

The Sustainable Fisheries Act required that the Regional Administrator close the recreational red snapper season when the quota is projected to be met. When Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007) was submitted to NMFS, the Council requested that the five Gulf of Mexico states adopt compatible regulations in state waters. Florida adopted a compatible 2-fish bag limit, but maintained its state red snapper fishing season of April 15 through October 31, 78 days longer than the federal fishing season. Texas also maintained its 4-fish bag limit and year-round fishing season in its state waters. Prior to the start of the 2008 season, NMFS recalculated its projections for recreational red snapper catches in light of the state regulations, and projected that there would be a 75% probability that the recreational quota would not be exceeded if the season closed on August 5. As a result, NMFS took action to set the 2008 season to be June 1 to August 5.

In 2009, NMFS again recalculated its projections for the season length prior to the start of the recreational season, and announced that the recreational season would be June 1 through August 15.

A February 2010 regulatory amendment (GMFMC 2010) increased the total allowable catch from 5.0 mp to 6.945 mp, which increased the recreational quota from 2.45 mp to 3.403 mp. However, NMFS estimated that in 2009, the recreational sector overharvested its quota by approximately 75%. In recalculating the number of days needed to fill the recreational quota, even with the quota increase, NMFS projected that the 2010 season would need to be shortened to June 1 through July 24, and published notice of those dates prior to the start of the recreational fishing season.

In April 2010, the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. Because of the resulting oil spill, approximately one-third of the Gulf of Mexico was closed to fishing for much of the summer months. The direct loss of fishing opportunities due to the closure, plus the reduction in tourism throughout the coastal Gulf of

Mexico, resulted in a much lower catch than had been projected. After the recreational season closed on July 24, NMFS estimated that 2.3 mp of the 3.4 mp recreational quota remained unharvested (NMFS 2010a). However, due to the fixed October 1 to December 31 closed season, NMFS could not reopen the recreational season without an emergency rule to suspend the closure. Consequently, the Council requested an emergency rule to provide the Regional Administrator with the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) from October 1 through November 21 (24 fishing days).

In January 2011, the Council submitted a regulatory amendment (GMFMC 2011a) to NMFS to increase the red snapper total allowable catch to 7.185 mp, with a 3.521 mp recreational quota and a 3.664 mp commercial quota. The final rule implemented the increase and established a 48-day recreational red snapper season was June 1 through July 18.

On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota by 345,000 pounds for the 2011 fishing year and provided the agency with the authority to reopen the recreational red snapper season later in the year, if the recreational quota had not been filled by the July 19 closing date. However, in August of that year, based on headboat data plus charterboat and private recreational landings through June, NMFS calculated that 80% of the recreational quota had been caught. With the addition of July landings data plus Texas survey data, NMFS estimated that 4.4 to 4.8 mp were caught, well above the 3.865 mp quota. Thus, no unused quota was available to reopen the recreational fishing season.

On May 30, 2012, NMFS published a final rule to increase the commercial and recreational quotas and establish the 2012 recreational red snapper fishing season. The recreational season opened on June 1 through July 11. However, the north-central Gulf of Mexico experienced extended severe weather during the first 26 days of the 2012 recreational red snapper fishing season, including Tropical Storm Debby. Due to the severe tropical weather, the season was extended by six days and closed on July 17.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modify the 2013 Red Snapper Quotas

Alternative 1: No Action - Maintain the quotas as defined in the March 2012 Regulatory Amendment. The commercial and recreational sector quotas would be 4.121 and 3.959 million pounds (mp) whole weight (ww), respectively.

Commercial quota	Recreational quota
4.121 mp	3.959 mp

Preferred Alternative 2: Set the 2013 quotas for red snapper at the sector allocations of acceptable biological catch (ABC) based on 51%:49% commercial and recreational allocations. The commercial and recreational sector quotas would be 4.315 and 4.145 mp ww, respectively.

Commercial quota	Recreational quota
4.315 mp	4.145 mp

Alternative 3: Set the 2013 quotas for red snapper at the sector allocations of ABC based on 51%:49% commercial and recreational allocations as reduced by the annual catch limit/annual catch target (ACL/ACT) control rule for each sector. Based on a calculated buffer of 0% for the commercial sector and 20% for the recreational sector, the commercial and recreational sector quotas would be 4.315 and 3.316 mp ww, respectively.

Commercial quota	Recreational quota
4.315 mp	3.316 mp

Discussion: **Alternative 1**, no action, would maintain the current ABC at 8.080 million pounds (mp) whole weight (ww) as defined in the March 2012 Regulatory Amendment (GMFMC 2011a). The commercial and recreational quotas would remain at 4.121 and 3.959 mp ww, respectively. The commercial sector is under an individual fishing quota (IFQ) program and has maintained landings at approximately 97% of their quota since the IFQ program was implemented in 2007 (Table 1.2). The recreational sector exceeded its quota by 89% in 2009 under a 75-day season, but harvested only about one-third of its quota during the 53-day June 1 – July 23 season in 2010 because of reduced effort resulting from the Deepwater Horizon MC252 oil spill fishery closures. Even with an emergency reopening of the recreational sector during weekends only (Friday, Saturday, and Sunday) from October 1 through November 21, the total recreational harvest in 2010 was estimated to be 2.24 mp, an underharvest of 34% from the 3.403 mp recreational quota (Linton 2011). For **Alternative 1**, the quota in 2013 would remain the same as in 2012. Because of increasing fish size and increasing catch rates, the recreational quota has regularly been exceeded. Due to these factors, the National Marine Fisheries Service

(NMFS) estimates the length of the 2013 recreational season will likely be shorter than in 2012. The actual length of the recreational season will be determined by NMFS Southeast Regional Office and announced prior to the June 1 opening.

Preferred Alternative 2 would establish the ABC at the level recommended by the Scientific and Statistical Committee (SSC) for 2013. This would be allocated into commercial and recreational sector quotas based on the allocation established in Reef Fish Amendment 1 (GMFMC 1989) at 51% commercial and 49% recreational in Amendment 1 to the Reef Fish Resources of the Gulf of Mexico (GMFMC 1989). This alternative would result in an increase in quota, relative to 2012, of 4.7% in 2013. The recreational quota would be 4.145 mp in 2013. However, based on the preliminary estimate, the 2012 recreational harvest is 5.8 mp (Linton 2012). Because of increasing fish size and increasing catch rates, the recreational quota has regularly been exceeded. Due to these factors, the National Marine Fisheries Service (NMFS) estimates the length of the 2013 recreational season will likely be shorter than in 2012. The actual length of the recreational season will be determined by the NMFS Southeast Regional Office and announced prior to the June 1 opening.

Alternative 3 would use a buffer between the quota and the ABC. This corresponds to the preferred method of applying ABCs and catch targets or quotas in the Generic ACL/AM Amendment (GMFMC 2011b). The amount of the buffer, in percent reduction, is determined by the ACL/ACT control rule adopted under the Generic ACL/AM Amendment. The purpose of the buffer is to reduce the likelihood of the ABC being exceeded in the event that landings exceed the quota. The commercial sector has not exceeded its quota since the inception of the IFQ program, and therefore there is no buffer as described in Appendix A. The commercial quota is equal to the commercial ABC. However, the recreational sector has exceeded its ABC in four of the last five years, by 52% in 2008, 89% in 2009, 18% in 2011 (or by 7% if the 345,000 lb supplemental allocation is included), and 46% based on the preliminary landings for 2012. The ACL/ACT control rule resulted in a buffer of 20% for the recreational sector (Appendix B). When applied to the recreational sector quota, this results in a quota of 3.316 mp for 2013. Because of increasing fish size and increasing catch rates, the recreational quota has regularly been exceeded. Due to these factors, the NMFS estimates the length of the 2013 recreational season will likely be shorter than in 2012. The actual length of the recreational season will be determined by the NMFS Southeast Regional Office and announced prior to the June 1 opening. While **Preferred Alternative 2** is not as biologically conservative as **Alternative 3**, the Council has managed the recreational red snapper sector based on the ABC for several years to maintain the socioeconomic benefits and optimal yield in accordance with the FMP and Red Snapper Rebuilding Plan.

2.2 Action 2: Modify the Recreational Bag Limit for Red Snapper

Preferred Alternative 1: No Action – maintain the recreational red snapper bag limit at 2 fish per angler per day.

Alternative 2: Modify the recreational red snapper bag limit to 1 fish per angler per day.

Alternative 3: Modify the recreational red snapper bag limit to 1 fish per 2 anglers per day.

Discussion: The length of the recreational season for red snapper continues to be reduced each year in an attempt to constrain harvest within the recreational quota. In four of the past five years, landings have exceeded the quota. Despite quota increases and shorter seasons, higher catch rates and increasing average fish weights have resulted in the quota being harvested more quickly. During public testimony, some recreational anglers have indicated they would be willing to accept a lower bag limit for red snapper if that would result in more days to fish.

Recreational red snapper landings are recorded as landed by three groups in the Gulf of Mexico: private anglers, charter boat passengers, and headboat passengers. Texas allows a bag limit of 4 red snapper per angler per trip in state waters; all other states currently comply with the federal bag limit of 2 red snapper per angler per trip. The highest percentage of trips in 2011 involved anglers landing one or two red snapper each (Table 2.2.1, Figure 2.2.1). **Preferred Alternative 1** would not be expected to result in changes to the average number of red snapper landed per trip. **Alternative 2** would be expected to impact trips where anglers landed greater than 1 red snapper per angler, or 72% of angler trips in 2011 (Table 2.2.1; summed HBS percentages from average number of red snapper 1.01-2.0 landed per angler per trip). **Alternative 3** would be expected to impact trips where anglers landed greater than 1 red snapper per 2 anglers, or 84% of angler trips in 2011 (Table 2.2.1; summed HBS percentages from average number of red snapper 0.51-2.0 landed per angler per trip).

Table 2.2.1. The percentage of Gulf of Mexico red snapper landed per angler per trip by average number of fish landed using three recreational datasets in 2011: Texas Parks and Wildlife Department (TPWD; n = 42 charter angler trips, 527 private angler trips), Marine Recreational Fisheries Statistic Survey (MRFSS; n = 1,109 charter angler trips, 583 private angler trips), and headboat survey (HBS; n = 119,392 angler trips) from 2011 (total n = 121,653 trips). Note: 1 fish per 2 anglers = 0.5 fish per angler.

Average number of red snapper landed per angler per trip	Data Source				
	TPWD*		MRFSS		HBS
	Charter	Private	Charter	Private	Headboat
0.00-0.50	7%	8%	8%	31%	16%
0.51-1.00	0%	7%	6%	16%	12%
1.01-1.50	10%	11%	4%	7%	13%
1.51-2.00	38%	31%	74%	46%	59%
2.01-3.00	12%	13%	9%	0%	0%
3.01-4.00	24%	20%	0%	0%	0%
>4.00**	10%	11%	0%	0%	0%

*Texas state regulations allow 4 red snapper per angler. **Landings in excess of 4 red snapper may be illegal landings or may be reporting errors.

Source: SERO-LAPP-2012-11.

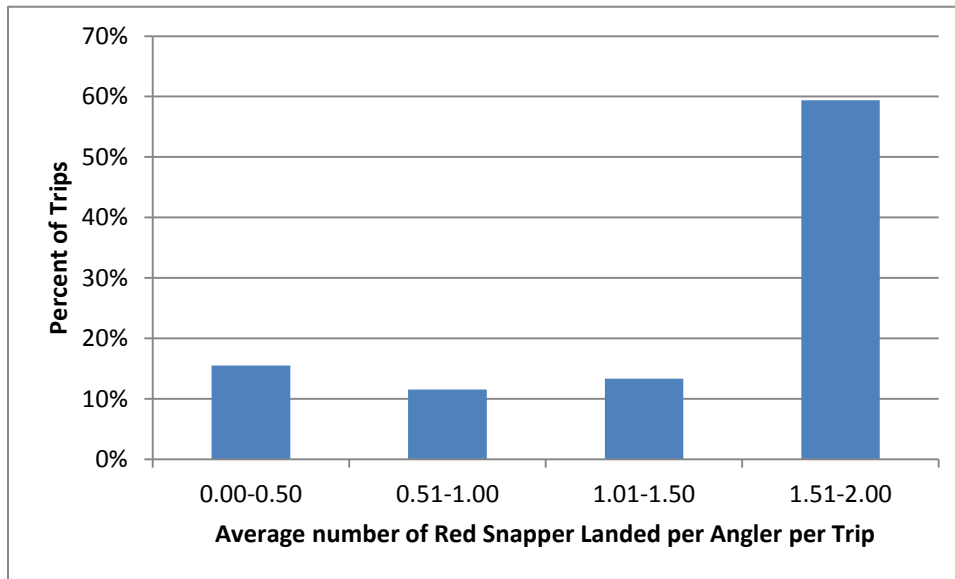


Figure 2.2.1. Average number of red snapper per angler per trip (expressed as a percentage) landed from the Gulf of Mexico (n = 121,653 angler trips). Source: SERO-LAPP-2012-11.

Preferred Alternative 1 would maintain the current 2-red snapper per angler bag limit. With this bag limit, the 2012 season was set at 40 days, plus an additional 6 days due to severe weather (http://sero.nmfs.noaa.gov/fishery_bulletins/documents/pdfs/2012/fb12_048_gulf_red_snapper_extension.pdf). Preliminary reports show 5.8 mp ww was landed or 146% of the 3.959 mp ww recreational quota (Linton 2012). The quota for 2013 was scheduled to increase to 4.258 mp, but only if the combined 2012 commercial and recreational catch did not exceed the 8.08 mp ABC. Because the combined commercial and recreational catch for 2012 exceeded the ABC, if the Gulf of Mexico Fishery Management Council (Council) did not take regulatory action in this document the ABC for 2013 would remain at the 2012 level.

The Council's SSC met in November 2012 to review the recreational sector's quota overage and updated projections. The SSC determined the ABC could increase for 2013, although not as much as previously intended. The SSC's recommended revised ABC for 2013 is 8.46 mp ww, which would result in a recreational quota of 4.145 mp (i.e., 49% recreational allocation). Even with this increase in the recreational quota, the season is estimated to be shorter than 40 days to prevent landings from exceeding the quota. Using 2012 estimated landings, the adjusted recreational quota would be exceeded by approximately 40%. This adjusted quota would remain in place until the new stock assessment is completed. A benchmark assessment is currently being conducted for red snapper by the Southeast Data Assessment and Review process (SEDAR 31). It is scheduled for review by the SSC in May 2013, and results are scheduled to be presented to the Council at their June 2013 meeting.

Alternative 2 would reduce the daily bag limit to 1 red snapper per angler. Although the bag limit would be halved, the expected reduction in landings would not be 50% because not all anglers currently catch 2 red snapper on every trip (Table 2.2.1). Further, each source (TPWD, MFRSS, and HBS) and mode (private, charter, and headboat) accounts for a different proportion of the catch, so a weighted percent reduction from each was used to estimate the reduction in landings (Table 2.2.2). Because Texas has a 4-red snapper per angler bag limit in state waters,

no reduction would be expected for trips where anglers were presumed to be fishing under that bag limit.

The overall expected reduction in landings with a 1-red snapper per angler bag limit would be 38%, which would allow the length of the recreational fishing season to be 1.61 times the length of the season in **Preferred Alternative 1** (SERO-LAPP-2012-11). However, if fishermen compensate for the lower bag limit by keeping larger fish, the reduction in harvest and the extension of the season would be less. Additionally, if states do not adopt a compatible 1-red snapper bag limit, then the reductions would be less.

Table 2.2.2. Percent in landings reduction in 2011 landings by mode and data source associated with reducing the red snapper bag limit from 2 to 1 fish (**Alternative 2**). The estimated percent reduction was weighted by mode and represents the overall estimated Gulf-wide reduction in red snapper landings associated with **Alternative 2** relative to **Preferred Alternative 1**.

Data Source	Mode	Estimated % Reduction
Headboat	Headboat	38.0%
MRFSS	Charter	46.0%
	Private	37.1%
TPWD	Charter	6.9%
	Private	9.2%
All	All	37.7%

Source: SERO-LAPP-2012-11.

Alternative 3 would effectively reduce the daily bag limit from 2 red snapper per angler to half a red snapper per angler. Because an individual cannot land half of a fish, at least 2 anglers would be required on a vessel to land 1 red snapper (Table 2.2.3). Even though fractional bag limits are estimated to increase the recreational fishing season, they have not been utilized by the Council in the past. For example, the Council previously considered fractional bag limits for greater amberjack in Amendment 30A (GMFMC 2008a). Based on comments during public hearings and advisory panel meetings, the Council determined fractional bag limits would be difficult to enforce and would disproportionately affect the for-hire industry. For example, strangers could have to accept that they could not keep a large trophy fish because another angler already caught one. Consequently, the Council removed all fractional bag limit alternatives from consideration for greater amberjack. However, the Council is now considering fractional bag limits for red snapper because of the potential to substantially increase the length of the recreational season.

Table 2.2.3. Number of landed red snapper allowed if **Alternative 3** is selected, based on the number of anglers aboard a vessel.

Number of anglers	Number of red snapper allowed
1	0
2-3	1
4-5	2
6-7	3

The overall expected reduction in red snapper landings with a bag limit of 1 fish per 2 anglers would be 63% (Table 2.2.4), which would allow the length of the recreational fishing season to be 2.68 times the length of the season in **Preferred Alternative 1** (SERO-LAPP-2012-11). Again, if fishermen compensate for the lower bag limit by keeping larger fish or if states do not adopt a compatible bag limit, the reduction in harvest and the extension of the season would be less.

Table 2.2.4. Percentage reduction in 2011 landings by mode and data source associated with reducing the red snapper bag limit from 2 fish per angler to 1 fish per 2 anglers (**Alternative 3**). The estimated percent reduction was weighted by mode and represents the overall estimated Gulf-wide reduction in red snapper landings associated with **Alternative 3** relative to **Preferred Alternative 1**.

Data Source	Mode	Estimated Reduction
Headboat	Headboat	63.1%
MRFSS	Charter	71.0%
	Private	63.5%
TPWD	Charter	13.1%
	Private	15.6%
All	All	62.8%

Source: SERO-LAPP-2012-11.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Physical Environment

The physical environment for reef fish has been described in detail in the environmental impact statement for the Generic Essential Fishery Habitat Amendment and is incorporated here by reference (GMFMC 2004a). The Gulf has a total area of approximately 600,000 square miles (1.5 million km²), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel. Oceanic conditions are primarily affected by the Loop Current, the discharge of freshwater into the Northern Gulf, and a semi-permanent, anticyclonic gyre in the western Gulf. Gulf water temperatures range from 12° C to 29° C (54° F to 84° F) depending on time of year and depth of water. In the Gulf, adult red snapper are found in submarine gullies and depressions; over coral reefs, rock outcroppings, and gravel bottoms; and are associated with oilrigs and other artificial structures (GMFMC, 2004b). Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010).

On April 20, 2010, the Deepwater Horizon MC252 oil spill created impacts on the environment beyond those described in the referenced materials. A discussion of the additional impacts to the physical, biological, economic, social, and administrative environments affected by the oil spill is contained in the January 2011 Regulatory Amendment (GMFMC 2011b) and is incorporated here by reference.

3.2 Description of the Biological/Ecological Environment

The biological environment of the Gulf of Mexico, including the species addressed in this amendment, is described in detail in the final environmental impact statement (EIS) for the Generic Essential Fish Habitat Amendment and the Generic Annual Catch Limit/Accountability Measure (ACL/AM) Amendment, and are incorporated herein by reference (GMFMC 2004b, GMFMC 2011a).

3.2.1 Red Snapper and Reef Fish

Red Snapper Life History and Biology

Red snapper demonstrate the typical reef fish life history pattern (GMFMC 2004b). Eggs and larvae are pelagic while juveniles are demersal. Juvenile red snapper are common on mud bottoms in the northern Gulf of Mexico, particularly off Texas through Alabama. Spawning occurs over firm sand bottom with little relief during the summer and fall. Adult females mature as early as 2 years and most are mature by 4 years (Schirripa and Legault 1999). Red snapper have been aged up to 57 years, but most caught by directed harvest are 2 to 4 years old (Wilson and Nieland 2001). A more complete description of red snapper life history can be found in the Generic Essential Fish Habitat Amendment (GMFMC 2004b).

Updated Red Snapper Projections and Scientific and Statistical Committee (SSC) Recommendations for an Overfishing Limit (OFL) and Acceptable Biological Catch (ABC)

The most recent red snapper benchmark stock assessment was completed in 2005 (SEDAR 7 2005). A Southeast Data, Assessment, and Review (SEDAR) update assessment was completed in December 2009 (SEDAR 7 update 2009). For a detailed description of the update assessment, go to: http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=00.

In January 2012, the SSC reviewed updated projections for red snapper. Landings data were updated to include 2009-2011 (preliminary), and abundance indicators and age composition data were updated. Details of this analysis are presented in Linton (2011). Projections for Gulf of Mexico red snapper were updated again in November 2012 to incorporate final 2011 landings and preliminary 2012 landings estimates. Some of the 2012 catch data were not yet available. Commercial individual fishing quota (IFQ) data were only available for January 1 through October 26. Recreational data for 2012 only included Marine Recreational Fishery Statistics Survey (MRFSS) waves 1-4, National Marine Fishery Service (NMFS) Headboat Survey (HBS) landings for January through August, and the Texas Parks and Wildlife Department (TPWD) “low landings” season. Landings for the missing time periods were estimated using methods based on landings from previous years. The resulting landings in pounds whole weight for the four years were as follows (Linton 2012):

Year	Commercial	Recreational	Total
2009	2.484	4.625	7.108
2010	3.392	2.239	5.631
2011	3.595	4.603	8.197
2012	3.893	5.796	9.689

A new benchmark assessment is scheduled to be completed in 2013. Therefore the SSC only provided ABCs for 2012 and 2013. Based on the projections provided by the Southeast Fisheries Science Center (SEFSC) (Linton 2012), the SSC recommended updated OFL and ABC values on November 8, 2012. The SSC recommended an OFL of 11.11 mp and an ABC of 8.46 mp for 2013.

Status of the Red Snapper Stock

The most recent red snapper Southeast Data, Assessment, and Review (SEDAR) benchmark stock assessment was completed in 2005 (SEDAR 7 2005). An update assessment was completed in December 2009 (SEDAR 7 update 2009). A new benchmark assessment should be completed in 2013.

The Status of Stocks Report to Congress currently lists the red snapper stock as overfished, but not undergoing overfishing. Under the definition of overfishing contained in the Generic ACL/AM Amendment (GMFMC 2011b), overfishing is defined for years when there was no stock assessment as exceeding the overfishing level for that year. As of November 2, 2012, the preliminary landings reported by NMFS indicate 9.861 million pounds of red snapper were landed in 2012 (SERO-LAPP-2012-10; SERO 2013). This amount is below the overfishing

level, indicating overfishing is not occurring. Therefore, under the definition specified by the Generic ACL/AM Amendment, overfishing did not occur in 2012, although the stock remains overfished.

General Information on Reef Fish Species

The following is summarized from the January 2011 Regulatory Amendment (GMFMC 2011a). The National Ocean Service of NOAA (NOS) collaborated with the NMFS and the Gulf of Mexico Fishery Management Council (Council) to develop distributions of reef fish (and other species) in the Gulf of Mexico (SEA 1998). The NOS obtained fishery-independent data sets for the Gulf of Mexico, including the Southeast Area Monitoring and Assessment Program (SEAMAP), and state trawl surveys. Data from the Estuarine Living Marine Resources (ELMR) Program contain information on the relative abundance of specific species for a series of estuaries, by five life stages and month for five seasonal salinity zones. The NOS staff analyzed the data to determine relative abundance of the mapped species by estuary, salinity zone, and month. For some species not in the ELMR database, distribution was classified as only observed or not observed for adult, juvenile, and spawning stages.

Habitat types and life history stages can be found in more detail in GMFMC (2004b). In general, reef fish are widely distributed in the Gulf of Mexico, occupying both pelagic and benthic habitats during their life cycle. In general, both eggs and larval stages are planktonic. Larvae feed on zooplankton and phytoplankton. Exceptions to these generalizations include the gray triggerfish that lay their eggs in depressions in the sandy bottom, and gray snapper whose larvae are found around submerged aquatic vegetation. Juvenile and adult reef fish are typically demersal, and are usually associated with bottom topographies on the continental shelf (<100 m) which have high relief, i.e., coral reefs, artificial reefs, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings. However, several species are found over sand and soft-bottom substrates. Some juvenile snappers (e.g. mutton, gray, red, dog, lane, and yellowtail snappers) and groupers (e.g. goliath, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems (GMFMC 1981). More detail on hard bottom substrate and coral can be found in the Fishery Management Plan (FMP) for Corals and Coral Reefs (GMFMC and SAFMC 1982).

Status of Reef Fish Stocks

The FMP for the Reef Fish Resources for the Gulf of Mexico currently encompasses 31 species (Table 3.3.2). Eleven other species were removed from the FMP in 2012 by the Council in their Generic ACL/AM Amendment (GMFMC 2011b). Stock assessments and stock assessment reviews can be found on the Council (www.gulfcouncil.org) and SEDAR (www.sefsc.noaa.gov/sedar) websites and have been conducted for 13 species:

- red snapper (SEDAR 7 2005; SEDAR 7 Update 2009)
- vermilion snapper (Porch and Cass-Calay 2001; SEDAR 9 2006a; SEDAR 9 Update 2011a)
- yellowtail snapper (Muller et al. 2003; SEDAR 3 2003; O'Hop et al. 2012)
- mutton snapper (SEDAR 15A 2008)
- gray triggerfish (Valle et al. 2001; SEDAR 9 2006b; SEDAR 9 Update 2011b)

- greater amberjack (Turner et al. 2000; SEDAR 9 2006c; SEDAR 9 Update 2010)
- hogfish (Ault et al. 2003; SEDAR 6 2004a)
- red grouper (NMFS 2002; SEDAR 12 2007; SEDAR 12 Update 2009)
- gag grouper (Turner et al. 2001; SEDAR 10 2006; SEDAR 10 Update 2009)
- black grouper (SEDAR 19 2010)
- yellowedge grouper (Cass-Calay and Bahnick 2002; SEDAR 22 2011a)
- tilefish (golden) (SEDAR 22 2011b)
- goliath grouper (Porch et al. 2003; SEDAR 6 2004b; SEDAR 23 2011)

The NMFS Office of Sustainable Fisheries updates its Status of U.S. Fisheries Report to Congress on a quarterly basis utilizing the most current stock assessment information. The most recent update can be found at: (<http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm>). The status of both assessed and unassessed stocks is shown in Table 3.2.1.

Table 3.2.1. Species of the reef fish FMP grouped by family.

Common Name	Scientific Name	Stock Status
Family Balistidae – Triggerfishes		
gray triggerfish	<i>Balistes capriscus</i>	Overfished, overfishing
Family Carangidae – Jacks		
greater amberjack	<i>Seriola dumerili</i>	Overfished, overfishing
lesser amberjack	<i>Seriola fasciata</i>	Unknown
almaco jack	<i>Seriola rivoliana</i>	Unknown
banded rudderfish	<i>Seriola zonata</i>	Unknown
Family Labridae - Wrasses		
hogfish	<i>Lachnolaimus maximus</i>	Unknown
Family Malacanthidae - Tilefishes		
tilefish (golden)	<i>Lopholatilus chamaeleonticeps</i>	Not overfished, no overfishing
blueline tilefish	<i>Caulolatilus microps</i>	Unknown
goldface tilefish	<i>Caulolatilus chrysops</i>	Unknown
Family Serranidae - Groupers		
gag	<i>Mycteroperca microlepis</i>	Overfished, overfishing
red grouper	<i>Epinephelus morio</i>	Not overfished, no overfishing
scamp	<i>Mycteroperca phenax</i>	Unknown
black grouper	<i>Mycteroperca bonaci</i>	Not overfished, no overfishing
yellowedge grouper	<i>Epinephelus flavolimbatus</i>	Not overfished, no overfishing
snowy grouper	<i>Epinephelus niveatus</i>	Unknown
speckled hind	<i>Epinephelus drummondhayi</i>	Unknown
yellowmouth grouper	<i>Mycteroperca interstitialis</i>	Unknown
yellowfin grouper	<i>Mycteroperca venenosa</i>	Unknown
warsaw grouper	<i>Epinephelus nigritus</i>	Unknown
**goliath grouper	<i>Epinephelus itajara</i>	Unknown
Family Lutjanidae - Snappers		
queen snapper	<i>Etelis oculatus</i>	Unknown
mutton snapper	<i>Lutjanus analis</i>	Not overfished, no overfishing
blackfin snapper	<i>Lutjanus buccanella</i>	Unknown
red snapper	<i>Lutjanus campechanus</i>	Overfished, no overfishing

cubera snapper	<i>Lutjanus cyanopterus</i>	Unknown
gray snapper	<i>Lutjanus griseus</i>	Unknown
lane snapper	<i>Lutjanus synagris</i>	Unknown
silk snapper	<i>Lutjanus vivanus</i>	Unknown
yellowtail snapper	<i>Ocyurus chrysurus</i>	Not overfished, no overfishing
vermillion snapper	<i>Rhomboplites aurorubens</i>	Not overfished, no overfishing
wenchman	<i>Pristipomoides aquilonaris</i>	Unknown

Note: **Goliath grouper is a protected grouper and benchmarks do not reflect appropriate stock dynamics.

3.3 Description of the Economic Environment

3.3.1 Commercial Sector

3.3.1.1 Vessel Activity

A description of the red snapper IFQ program is contained in NMFS (2012) and is available at: http://sero.nmfs.noaa.gov/sf/ifq/2011_RS_AnnualReport_Final.pdf. This description is incorporated herein by reference.

Tables 3.3.1.1.1 and 3.3.1.1.2 contain summary vessel and trip counts, landings, and revenue information from vessels landing at least one pound of red snapper from 2007 through 2011. Data from years prior to the implementation of the IFQ program are not representative of current conditions.

The tables contain vessel counts from the NMFS Southeast Fisheries Science Center (SEFSC) logbook (logbook) data (vessel count, trips, and landings) and the NMFS Southeast Regional Office (SERO) Limited Access Privilege Program (LAPP) data (vessel count). Dockside values were generated using landings information from logbook data and price information from the NMFS SEFSC Accumulated Landings System (ALS) data. The logbook and LAPP data programs serve different purposes and use different data collection methods. Consequently, comparative analysis of data from these programs may produce different results, as evidenced by the vessel counts provided in Table 3.3.1.1.1. However, this assessment utilizes logbook data because the logbook program collects data on all species harvested on trips on which red snapper are harvested, as well as harvests by these vessels on trips without red snapper.

On average, 333 vessels per year landed red snapper (Table 3.3.1.1.1). These vessels averaged 2,702 trips per year on which red snapper was landed and 2,153 trips without red snapper (Table 3.3.1.1.1). The average annual total dockside revenue (2011 dollars) was approximately \$9.61 million from red snapper, approximately \$11.20 million from other species co-harvested with red snapper (on the same trip), and approximately \$10.09 million from other species harvested on trips on which no red snapper were harvested (Table 3.3.1.1.2). Total average annual revenues were approximately \$30.89 million, or approximately \$93,000 per vessel (Table 3.3.1.1.2).

Table 3.3.1.1.1. Summary of vessel counts, trips, and landings (pounds gutted weight (lbs gw)) for vessels landing at least one pound of red snapper, 2007-2011.

Year	Number of Vessels, Logbook Data	Number of Vessels, LAPPs Data	Number of Trips that Caught Red Snapper, Logbook Data	Red Snapper Landings (lbs gw)*	“Other Species” Landings Jointly Caught with Red Snapper (lbs gw)*	Number of Trips that Only Landed “Other Species”*	“Other Species” Landings on Trips without Red Snapper (lbs gw)*
2007	319	305	2,578	2,764,467	3,475,938	2,133	3,414,094
2008	308	297	2,274	2,163,312	3,755,670	2,552	4,085,616
2009	296	289	2,329	2,163,632	3,753,024	2,425	3,964,434
2010	376	384	2,970	2,939,254	3,955,422	1,716	2,807,229
2011	367	362	3,361	3,069,031	5,437,573	1,940	4,129,594
Average	333	327	2,702	2,619,939	4,075,525	2,153	3,680,193

Source: NMFS SEFSC Logbook and NMFS SERO LAPPs data.

Table 3.3.1.1.2. Summary of vessel counts and revenue (2011 dollars) for vessels landing at least one pound of red snapper, 2007-2011.

Year	Number of Vessels, Logbook Data	Dockside Revenue from Red Snapper (2011 \$)	Dockside Revenue from “Other Species” Jointly Caught with Red Snapper (2011 \$)	Dockside Revenue from “Other Species” Caught on Trips without Red Snapper (2011 \$)	Total Dockside Revenue (2011 \$)	Average Total Dockside Revenue per Vessel (2011 \$)
2007	319	\$10,449,784	\$9,282,632	\$9,928,104	\$29,660,520	\$92,980
2008	308	\$8,391,362	\$10,491,185	\$11,277,351	\$30,159,898	\$97,922
2009	296	\$7,924,044	\$9,474,223	\$10,090,851	\$27,489,118	\$92,869
2010	376	\$10,357,452	\$11,133,002	\$7,638,771	\$29,129,225	\$77,471
2011	367	\$10,921,798	\$15,596,384	\$11,499,415	\$38,017,597	\$103,590
Average	333	\$9,608,888	\$11,195,485	\$10,086,898	\$30,891,272	\$92,966

Source: NMFS SEFSC Logbook and ALS data.

Commercial fishing for red snapper in 2010 appeared to be unaffected, from a landings and revenue perspective, by conditions associated with the Deepwater Horizon MC252 oil spill. As a

result, 2010 data were included in the information provided in Tables 3.3.1.1.1 and 3.3.1.1.2. As discussed below, this was not the case for the recreational sector.

3.3.1.2 Commercial Sector Business Activity

Estimates of the business activity (economic impacts) in the U.S. associated with the Gulf of Mexico commercial red snapper harvests were derived using the model developed for and applied in NMFS (2011) and are provided in Table 3.3.1.2.1. Business activity for the commercial sector is characterized in the form of full-time equivalent (FTE) jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting. The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors).

Table 3.3.1.2.1. Average annual business activity associated with the harvests of vessels that harvest red snapper, 2007-2011.

Species	Average Annual Dockside Revenue (millions)¹	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)¹	Income Impacts (millions)¹
Red Snapper	\$9,609	1,733	226	\$126,515	\$53,920
All Species ²	\$30,891	5,572	727	\$406,730	\$173,344

¹2011 dollars.

²Includes dockside revenues and economic activity associated with the average annual harvests of all species, including red snapper, harvested by vessels that harvested red snapper.

In addition to red snapper harvests, as discussed above, vessels that harvested red snapper also harvested other species on trips where red snapper were harvested, as well as on other trips on which no red snapper were harvested. All revenues from all species on all these trips contributed towards making these vessels economically viable and contribute to the economic activity associated with these vessels. The average annual total ex-vessel revenues from all species (including red snapper) harvested during this period (2007-2011) by vessels that harvested red snapper was approximately \$30.89 million (2011 dollars). The economic activity associated with these revenues is estimated to support 5,572 FTE jobs (727 in the harvesting sector) and generate approximately \$406.73 million in output (sales) impacts and approximately \$173.34 million in income impacts. Caution should be used in interpretation of the estimates of harvester jobs, however, as these revenues were generated by the same vessels, likely using mostly the same crew. The estimate of jobs in the harvest sector are based roughly on the estimate that approximately \$42,500 in ex-vessel revenues in the commercial reef fish fishery supports, on average, one FTE harvester job. As a result of this methodology, increasing the amount of revenues uniformly increases the number of jobs supported and does not factor in the higher earnings potential of these vessels.

3.3.1.3 Dealers

Commercial vessels landing reef fish, including red snapper, can only sell their catch to federally permitted fish dealers. On November 21, 2012, there were 198 reef fish dealer permits, of which 146 possessed the IFQ endorsement necessary to receive Gulf of Mexico LAPP species (SERO Permits and LAPP data). Because there are no income or sales requirements to acquire a federal dealer permit or IFQ endorsement, the total number of dealers can vary over the course of the year and from year to year. In addition to red snapper, grouper and tilefish are Gulf of Mexico LAPP species and not all dealers authorized to receive Gulf of Mexico LAPP species purchase red snapper. The following results are based on assessment of ALS data. In 2011, 88 dealers purchased red snapper. Sixty-six of these dealers were in Florida, eight in Texas, six in Louisiana, and four each in Alabama and Mississippi. Total red snapper purchased by these dealers in 2011 had an ex-vessel value of approximately \$11.42 million (2011 dollars), or approximately 10.6% of the total revenues, approximately \$108.21 million (2011 dollars), from all marine resource purchases by these dealers. Dependency on red snapper sales varies by dealer, with the percentage of red snapper purchases (value, not pounds) to total purchases varying from less than 1% to 100%. Red snapper purchases in 2011 comprised 10% or more of total purchases for 40 of these dealers, and 5% or less for 35 dealers. Average red snapper dependency (measured as the percentage of red snapper value to total value of all purchases) was highest for Texas and Mississippi dealers, approximately 20.83% in both states, followed by Florida (approximately 5.73%), Louisiana (approximately 4.78%), and Alabama (approximately 2.33%).

3.3.1.4 Imports

Information on the imports of all snapper and grouper species, either fresh or frozen, are available at: http://www.st.nmfs.noaa.gov/st1/trade/cumulative_data/TradeDataProduct.html. Information on the imports of individual snapper or grouper species is not available. In 2011, imports of all snapper and grouper species (fresh and frozen) were approximately 40.31 million pounds valued at approximately \$110.64 million (2011 dollars). These amounts are contrasted with the domestic harvest of all snapper and grouper in the U.S. in 2011 of approximately 19.18 mp valued at approximately \$58.05 million (data available at: http://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus11/02_commercial2011.pdf). Although the levels of domestic production and imports are not totally comparable for several reasons, including considerations of different product form such as fresh versus frozen, and possible product mislabeling, the difference in the magnitude of imports relative to amount of domestic harvest is indicative of the dominance of imports in the domestic market.

3.3.2 Recreational Sector

3.3.2.1 Angler Effort

Recreational effort derived from the MRFSS/Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

1. Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or second primary target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.
3. Total recreational trips - The total estimated number of recreational trips in the Gulf of Mexico, regardless of target intent or catch success.

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), among other measures, but the three measures of effort listed above are used in this assessment. Because of the Deepwater Horizon MC252 oil spill, 2010 was not a typical year for recreational fishing due to the extensive closures and associated decline in fishing in much of the Gulf of Mexico. For information on the Deepwater MC252 oil spill and associated closures, see: http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm. Estimates of the average annual red snapper effort for the shore, charter, and private/rental boat modes in the Gulf of Mexico for the period 2006-2011 with and without 2010 data are provided in Table 3.3.2.1.1. The average annual red snapper target effort for 2006-2011 was approximately 9% less than the average for this period excluding 2010. For red snapper catch effort, the difference was approximately 7%. Because of these differences, this assessment excludes recreational effort data for 2010 from further analysis. Table 3.3.2.1.2 contains estimates for the average annual red snapper recreational effort for 2006-2011 excluding 2010 by state and mode (shore, charter, and private/rental boat only).

Table 3.3.2.1.1. Effects of 2010 data on average annual red snapper recreational effort.

	Target Trips					
	Alabama	West Florida	Louisiana	Mississippi	Texas	Total
Average 2006-2011	98,373	186,656	49,934	7,225	*	342,187
Average w/o 2010	111,846	198,609	58,108	7,729	*	376,292
	Catch Trips					
	Alabama	West Florida	Louisiana	Mississippi	Texas	Total
Average 2006-2011	150,641	465,282	77,689	9,284	*	702,896
Average w/o 2010	163,316	494,783	90,524	9,722	*	758,346

*Unavailable.

Source: SERO using MRFSS/MRIP data.

Table 3.3.2.1.2. Average annual red snapper recreational effort by mode, 2006-2011 excluding 2010.

	Alabama	West Florida	Louisiana	Mississippi	Texas	Total
Shore Mode						
Target Trips	610	1,215	0	0	*	1,825
Catch Trips	912	1,114	0	0	*	2,026
Charter Mode						
Target Trips	22,131	46,389	18,510	33	*	87,064
Catch Trips	49,405	212,494	34,418	247	*	296,563
Private/Rental Mode						
Target Trips	89,105	151,005	39,598	7,696	*	287,403
Catch Trips	112,999	281,175	56,106	9,476	*	459,757
All Modes						
Target Trips	111,846	198,609	58,108	7,729	*	376,292
Catch Trips	163,316	494,783	90,524	9,722	*	758,346

*Unavailable.

Source: SERO using MRFSS/MRIP data.

Headboat data do not support the estimation of target or catch effort because target intent is not collected and the harvest data (the data reflect only harvest information and not total catch) are collected on a vessel basis and not by individual angler. Table 3.3.2.1.3 contains estimates of the number of headboat angler days for all Gulf of Mexico states for 2006-2011.

Table 3.3.2.1.3. Headboat angler days.

Year	WFlorida/Alabama	Louisiana	Mississippi	Texas	Total
2006	124,049	5,005	0	70,789	199,843
2007	136,880	2,522	0	63,764	203,166
2008	130,176	2,945	0	41,188	174,309
2009	142,438	3,268	0	50,737	196,443
2010	111,018	217	*	47,154	158,389
2011	157,025	1,886	1,771	47,284	207,966
Average All	133,598	2,641	*	53,486	189,724
Average w/o 2010	138,114	3,125	1,771**	54,752	196,345

*Confidential.

**Because the average totals are used to represent expectations of future activity, the 2011 number of trips is provided as best representative of the emergent headboat fishery in Mississippi.

Source: NMFS Headboat Survey.

3.3.2.2 Permits

The for-hire sector is comprised of charter vessels and headboats (party boats). Although charter vessels tend to be smaller, on average, than headboats, the key distinction between the two types of operations is how the fee is determined. On a charter boat trip, the fee charged is for the entire vessel, regardless of how many passengers are carried, whereas the fee charged for a headboat trip is paid per individual angler.

A federal for-hire vessel permit has been required for reef fish since 1996 and the sector currently operates under a limited access system. On November 21, 2012, there were 1,364 valid (non-expired) or renewable Gulf of Mexico Charter/Headboat Reef Fish Permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the permit does not distinguish between headboats and charter boats, an estimated 69 headboats were active in the Gulf of Mexico in 2012 (K. Brennen SEFSC, pers. comm.).

Information on Gulf of Mexico charter boat and headboat operating characteristics, including average fees and net operating revenues, is included in Savolainen et al. (2012) and is incorporated herein by reference.

There are no specific permitting requirements for recreational anglers to fish for or harvest reef fish. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible with available data to identify how many individual anglers would be expected to be affected by this proposed amendment.

3.3.2.3 Recreational Sector Business Activity

Estimates of the business activity (economic impacts) associated with recreational angling for red snapper were derived using average impact coefficients for recreational angling for all species, as derived from an add-on survey to the MRFSS to collect economic expenditure information, as described and utilized in NMFS (2011). Estimates of these coefficients for target or catch behavior for individual species are not available. Estimates of the average expenditures by recreational anglers are also provided in NMFS (2011) and are incorporated herein by reference.

Business activity for the recreational sector is characterized in the form of FTE jobs, output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income impacts (commercial sector) and value-added impacts (recreational sector) are not equivalent, though similarity in the magnitude of multipliers generated and used for the two metrics may result in roughly equivalent values. Similar to income impacts, value-added impacts should not be added to output (sales) impacts because this would result in double counting.

Estimates of the average red snapper effort (2006-2009 and 2011) and associated business activity (2011 dollars) are provided in Table 3.3.2.3.1. Red snapper target effort (trips) was selected as the measure of red snapper effort. More individual angler trips catch red snapper than target red snapper, however, as shown in Tables 3.3.2.1.1 and 3.3.2.1.2. Estimates of the economic activity associated with red snapper catch trips can be calculated using the ratio of catch trips to target trips because the available average impacts per trip are not differentiated by trip intent. For example, if the estimated number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the economic activity associated with these catch trips would equal three times the estimated impacts of target trips.

Unlike the estimates of business activity associated with commercial red snapper harvests provided in Section 3.3.1.2, which represent business activity in the U.S. as a whole, the estimates of the business activity associated with red snapper recreational trips are only available at the state level. Addition of the state-level estimates to produce either a regional or national total will underestimate the actual total amount of business activity because summing the state estimates will not capture business activity that leaks outside the individual states. A state estimate only reflects activities that occur within that state and not related activity that occurs in another state. For example, if a good is produced in Alabama but sold in Florida, the measure of business activity in Florida associated with the its sale in Florida does not include the production process in Alabama. Assessment of business activity at the national (or regional) level would capture activity in both states and include all activity except that which leaks into other nations.

Table 3.3.2.3.1. Summary of red snapper target trips (2006-2009 and 2011 average) and associated business activity (2011 dollars). Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	610	1,215	0	0	*
Output Impact	\$46,624	\$86,025	\$0	\$0	*
Value Added Impact	\$25,081	\$49,977	\$0	\$0	*
Jobs	1	1	0	0	*
	Private/Rental Mode				
Target Trips	89,105	151,005	39,598	7,696	*
Output Impact	\$5,416,278	\$7,162,669	\$3,373,684	\$229,300	*
Value Added Impact	\$2,965,290	\$4,259,192	\$1,659,295	\$109,897	*
Jobs	54	68	30	2	*
	Charter Mode				
Target Trips	22,131	46,389	18,510	33	*
Output Impact	\$12,038,231	\$15,218,384	\$9,206,092	\$10,712	*
Value Added Impact	\$6,626,643	\$9,022,935	\$5,227,203	\$6,036	*
Jobs	154	150	93	0	*
	All Modes				
Target Trips	111,846	198,609	58,108	7,729	*
Output Impact	\$17,501,134	\$22,467,077	\$12,579,776	\$240,012	*
Value Added Impact	\$9,617,014	\$13,332,104	\$6,886,498	\$115,933	*
Jobs	209	219	123	2	*

*Because target information is unavailable, associated business activity cannot be calculated.

Source: effort data from the MRFSS/MRIP, economic impact results calculated by NMFS SERO using the model developed for NMFS (2011).

Estimates of the economic activity (impacts) associated with headboat red snapper effort are not available. The headboat sector in the Southeast is not covered in the MRFSS/MRIP, so estimation of the appropriate economic impact coefficients for the headboat sector was not conducted. While appropriate economic impact coefficients are available for the charter boat sector, potential differences in certain factors, such as the for-hire fee, rates of tourist versus local participation rates, and expenditure patterns, may result in significant differences in the economic impacts of the headboat sector relative to the charter boat sector.

3.4 Description of the Social Environment

This section includes a description of the recreational and commercial portions of the red snapper component of the reef fish fishery. The description is based on the geographical distribution of landings and the relative importance of red snapper and for commercial and recreational communities. A spatial approach enables the consideration of fishing communities and of the importance of fishery resources to those communities, as required by National Standard 8.

The February 2010 Regulatory Amendment (GMFMC 2010) includes a description of the social environment which includes a detailed discussion of the communities within each state and county that are the most reliant on red snapper. This description focuses on the demographic character of each county in order to aid in understanding the dependence of a particular county on red snapper fishing. The January 2011 Regulatory Amendment (GMFMC 2011a) includes an update on the impacts of the Deepwater Horizon MC252 oil spill. The Gulf of Mexico 2011 Red Snapper Individual Fishing Quota Annual Report (NMFS 2012) provides a detailed discussion of the Gulf of Mexico commercial red snapper IFQ program. These documents are included herein by reference.

Red snapper is landed in all states in the Gulf of Mexico. The current commercial and recreational quotas for red snapper were established in the January 2012 Regulatory Amendment (GMFMC 2012). The resulting allocation is currently set at 4.121 mp (51%) for the commercial sector and 3.959 mp (49%) for the recreational sector.

Social Importance of Fishing

Socio-cultural values are qualitative in nature making it difficult to measure social valuation of marine resources and fishing activity. The following description includes multiple approaches to examining fishing importance. These spatial approaches focus on the community level (based on the address of dealers or permit holders) and identify importance by “community”, defined according to geo-political boundaries (cities). A single county may thus have several communities identified as reliant on fishing and the boundaries of these communities are not discrete in terms of residence, vessel homeport, and dealer address. For example, a fisherman may reside in one community, homeport his vessel in another, and land his catch in yet another. Furthermore, while commercial fishing data are available at the species level, these data are not available for recreational fishing which must be addressed more generally. Despite these caveats, the analysis identifies where most fishing activity takes place.

To identify the communities of greatest engagement in recreational fishing, a factor analysis was run on a set of predictor variables including the number of federal charter permits, number of vessels designated recreational by owner address, number of vessels designated recreational by homeport (SERO permit office 2008), and recreational fishing infrastructure (MRIP site survey 2010). The 20 communities with the highest factor scores are identified in Table 3.4.1 as the communities of greatest recreational fishing engagement. However, this measure does not adjust for population size meaning that larger communities are given more weight over smaller communities. The ranking addresses recreational fishing generally and is not specific to red snapper. Ideally, additional variables quantifying the importance of recreational fishing to a

community would be included (such as the amount of recreational landings in a community, number of recreational fishing related businesses, etc); however, these data are not available at this time.

Another approach utilizes measures called the regional quotient (rq) to identify commercial reliance. The rq is a way to measure the relative importance of a given species across all communities in the region and represents the proportional distribution of commercial landings of a particular species. This proportional measure does not provide the number of pounds or the value of the catch, data which might be confidential at the community level for many places. The rq is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities in the region.

Another approach utilizes a measure called the local quotient (lq) to identify commercial reliance on red snapper. The lq is a way to measure the relative importance of a particular species among all landings in the same community. The lq is calculated by dividing the total pounds (or value) of landings of a given species in a community by the total pounds (or value) of all commercial species for that same community. Thus, the lq represents the proportion of landings of a given species among other landed species, suggesting the relative importance of species to the community.

The data used for the lq measure were assembled from the ALS which includes landings of all species from both state and federal waters and is based on dealers' reports. Because of this, the address of a dealer may not be the coastal community where the dealer's facilities are located. These measures are an attempt to quantify the importance of red snapper to communities around the Gulf of Mexico coast and suggest where impacts from management actions are more likely to be experienced.

Recreational Fishing

Red snapper is harvested recreationally in all states in the Gulf of Mexico; however more than half of the recreational catch is harvested in Alabama (Table 3.4.1). Florida also harvests a sizable amount of the red snapper recreational catch (32.4%, Table 3.4.1). Fishermen in other Gulf states are also involved in recreational red snapper fishing, but these states include a smaller percentage of the total recreational landings.

Table 3.4.1. Percentage of total recreational red snapper landings by state for 2011.

State	Landings
AL	50.3%
FL (Gulf Coast)	32.4%
LA	6.2%
MS	0.7%
TX	10.5%

Source: SERO LAPP/DM Branch 2011.

Landings for the recreational sector are not available by species at the community level; therefore, it is difficult to identify communities as dependent on recreational fishing for red snapper. The 20 Gulf of Mexico communities which scored highest for recreational fishing engagement based on the analysis described above are listed in Table 3.4.2. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top 20 list suggesting a greater importance for recreational fishing in that region.

Table 3.4.2. Top ranking Gulf of Mexico communities based on recreational fishing engagement and reliance, in descending order.

Community	County	State
Destin	Okaloosa	FL
Orange Beach	Baldwin	AL
Panama City	Bay	FL
Port Aransas	Nueces	TX
Pensacola	Escambia	FL
Panama City Beach	Bay	FL
Naples	Collier	FL
St. Petersburg	Pinellas	FL
Freeport	Brazoria	TX
Biloxi	Harrison	MS
Galveston	Galveston	TX
Clearwater	Pinellas	FL
Fort Myers Beach	Lee	FL
Sarasota	Sarasota	FL
Tarpon Springs	Pinellas	FL
Dauphin Island	Mobile	AL
Apalachicola	Franklin	FL
Carrabelle	Franklin	FL
Port St. Joe	Gulf	FL
Marco Island	Collier	FL

Source: SERO permit office 2008, MRIP site survey 2010.

Commercial Fishing

The pattern of red snapper commercial fishing is evident in Figure 3.4.1 and Figure 3.4.2, with the majority of dealer-reported landings located in the Florida Panhandle, Louisiana, and Texas. The top 10 communities make up about 79% of commercial red snapper landings in 2011 (Figure 3.4.2). The top Florida Panhandle communities make up nearly 31% of landings, the top Texas communities make up about 25% of landings, and the community of Golden Meadow, Louisiana alone makes up approximately 18% of commercial landings in 2011 (Figure 3.4.2). Red snapper is also landed commercially throughout the rest of the Gulf.

As reported in NMFS (2012), concentrations of commercial IFQ shares are held in Florida (49%) and Texas (30%). Other shares are held by residents in other Gulf of Mexico states (18%) or non-Gulf of Mexico states (2%). The communities with the largest number of shareholder

entities are located in the Florida Panhandle, in the Tampa Bay area of Florida, and in Texas (Table 3.4.3).

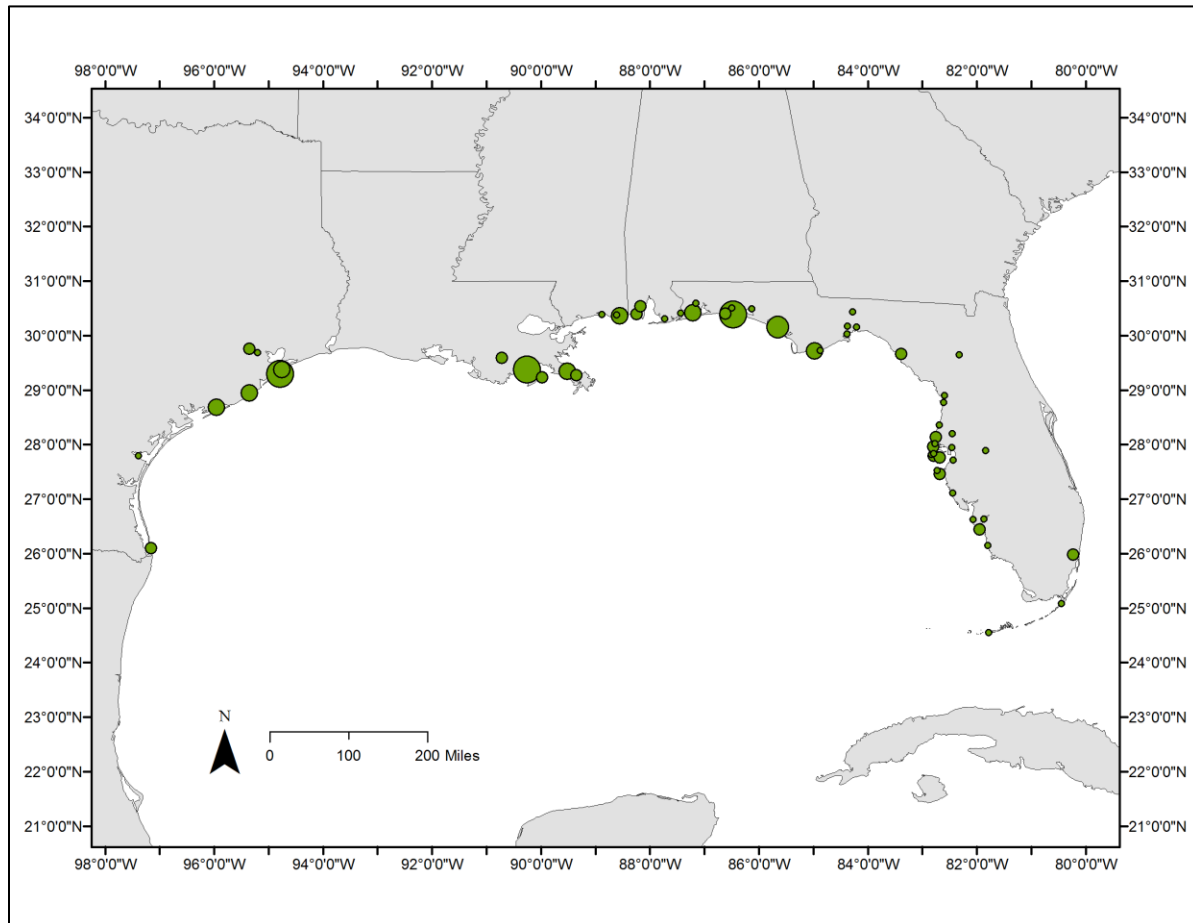


Figure 3.4.1. Distribution of commercial red snapper landings 2011 with the size of the green point proportional to landings, based on dealer reports. Source: ALS dealer reports 2011.

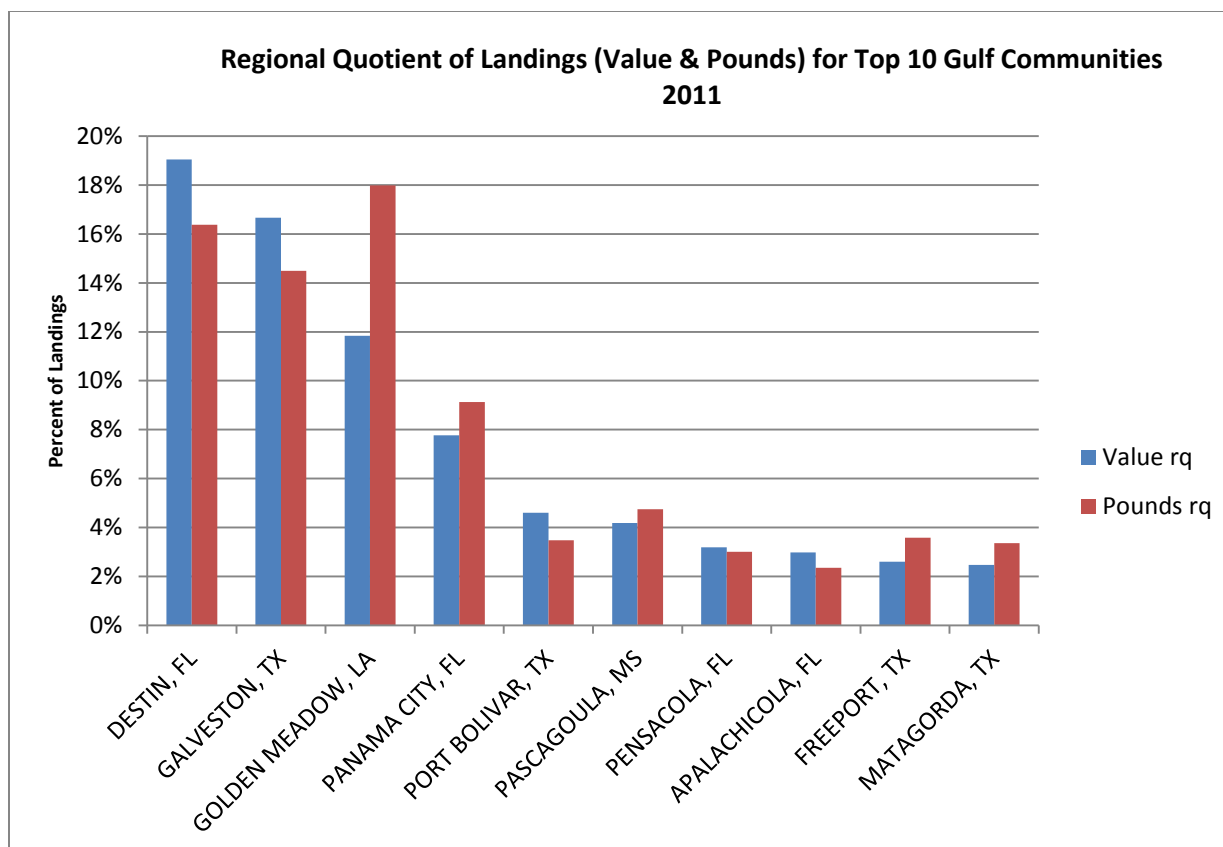


Figure 3.4.2. Proportion of red snapper commercial landings (value and pounds) for top 10 Gulf communities out of total pounds and landings of red snapper. Source: ALS dealer reports 2011.

Table 3.4.3. Top ranking Gulf of Mexico communities by number of shareholder entities, in descending order.

State	City	Number of Shareholders
FL	Panama City	36
FL	Destin	18
FL	Pensacola	13
FL	Cortez	11
FL	St. Petersburg	10
FL	Largo	9
FL	Lynn Haven	9
FL	Tallahassee	9
FL	Apalachicola	8
FL	Clearwater	8
TX	Galveston	8
TX	Houston	8

Source: SERO LAPP/DM Branch 2011.

Importance of Red Snapper to Communities

Figures 3.4.1 and 3.4.2 identified where red snapper landings are most abundant. However, this does not necessarily reflect the importance of red snapper in relation to other landed species in those communities. No data are available for the proportion of recreational landings of red snapper by community, but these data are available for the commercial sector. It cannot be assumed that the proportion of commercial red snapper landings among other species in a community would be similar to its proportion among recreational landings within the same community because of sector differences in fishing practices and preferences.

Comparing the communities of recreational importance (Table 3.4.1) and those with greater commercial landings (Figure 3.4.2) and IFQ shareholders (Table 3.4.2), five communities overlap: Destin, Panama City, Pensacola, and Apalachicola, Florida and Galveston, Texas. The following five figures (Figures 3.4.3 - 3.4.7) employ the lq analysis described above to examine the relative importance of red snapper landings in each community. The proportions of the top 15 commercial species are shown and include state-managed species.

Destin

Destin, Florida ranks first for the number of reef fish charter/headboat permits in 2010, with 118 federal permits. Destin also ranks first in terms of commercial red snapper landings in 2011 (Figure 3.4.2). Of the commercially landed species, red snapper makes up about 9% of all commercial landings (Figure 3.4.3).

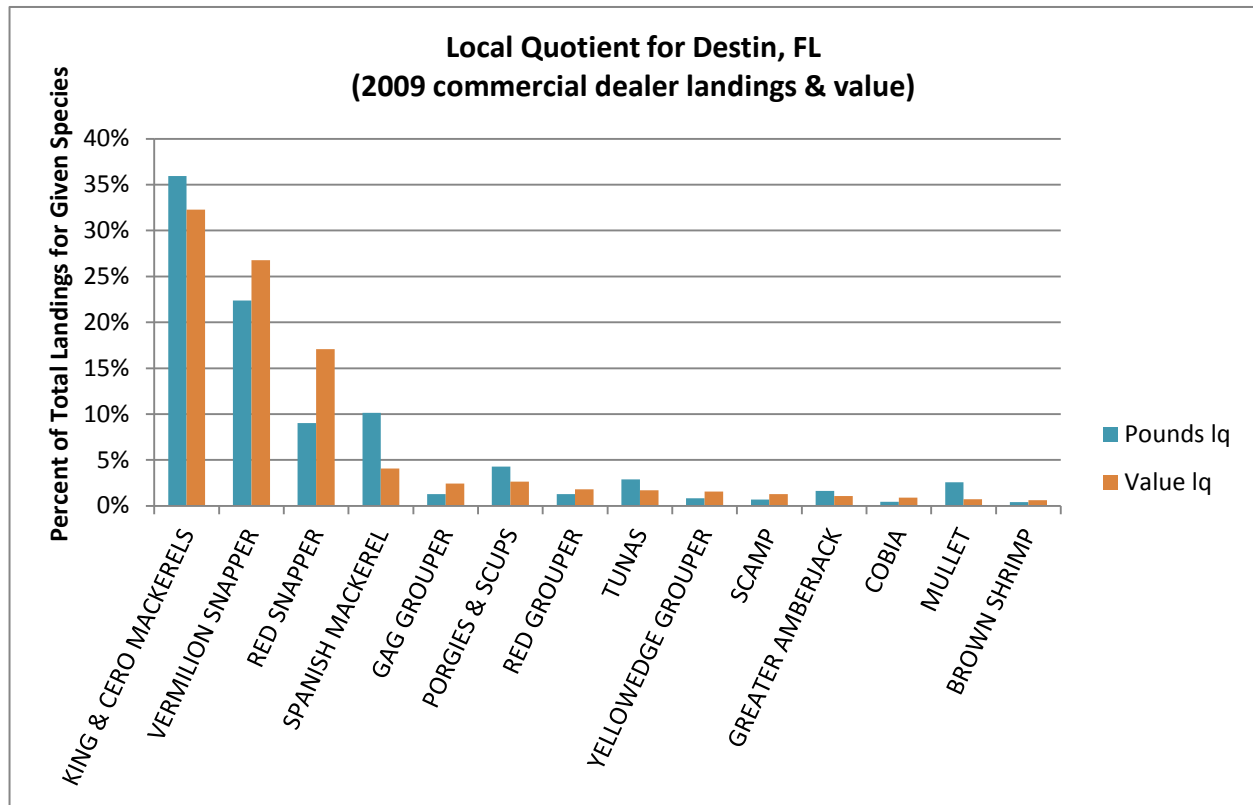


Figure 3.4.3. Proportion (lq) of commercial landings and value for top 15 species out of total landings and value for Destin, Florida. Source: ALS dealer reports 2009.

Galveston

Galveston, Texas was ranked fifth in terms of the number of reef fish charter/headboat permits in 2010 with 45 federal permits. Galveston also ranks second in terms of commercial red snapper landings in 2011 (Figure 3.4.2). Of the commercially landed species, red snapper makes up about 9% of all commercial landings (Figure 3.4.4).

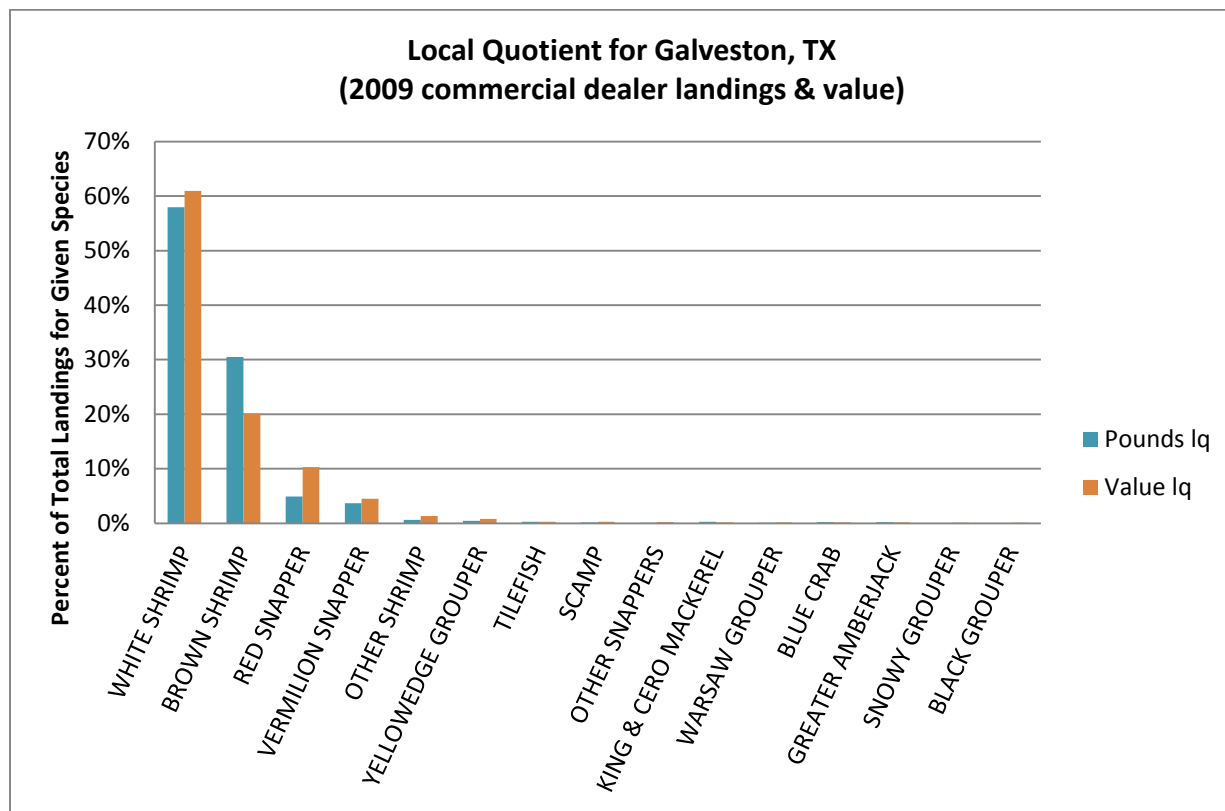


Figure 3.4.4. Proportion (lq) of commercial landings and value for top 15 species out of total commercial landings and value for Galveston, Texas. Source: ALS dealer reports. 2009.

Panama City

Panama City, Florida was ranked third for the number of reef fish charter/headboat permits in 2010 with 67 federal permits. Both Panama City and Panama City Beach ranked within the top 10 recreational fishing communities based on the fishing involvement analysis discussed above, suggesting a higher level of regional involvement across geo-political boundaries. Panama City also ranks fourth in terms of commercial red snapper landings in 2011 (Figure 3.4.2). Of the commercially landed species, red snapper makes up about 5% of all commercial landings (Figure 3.4.5).

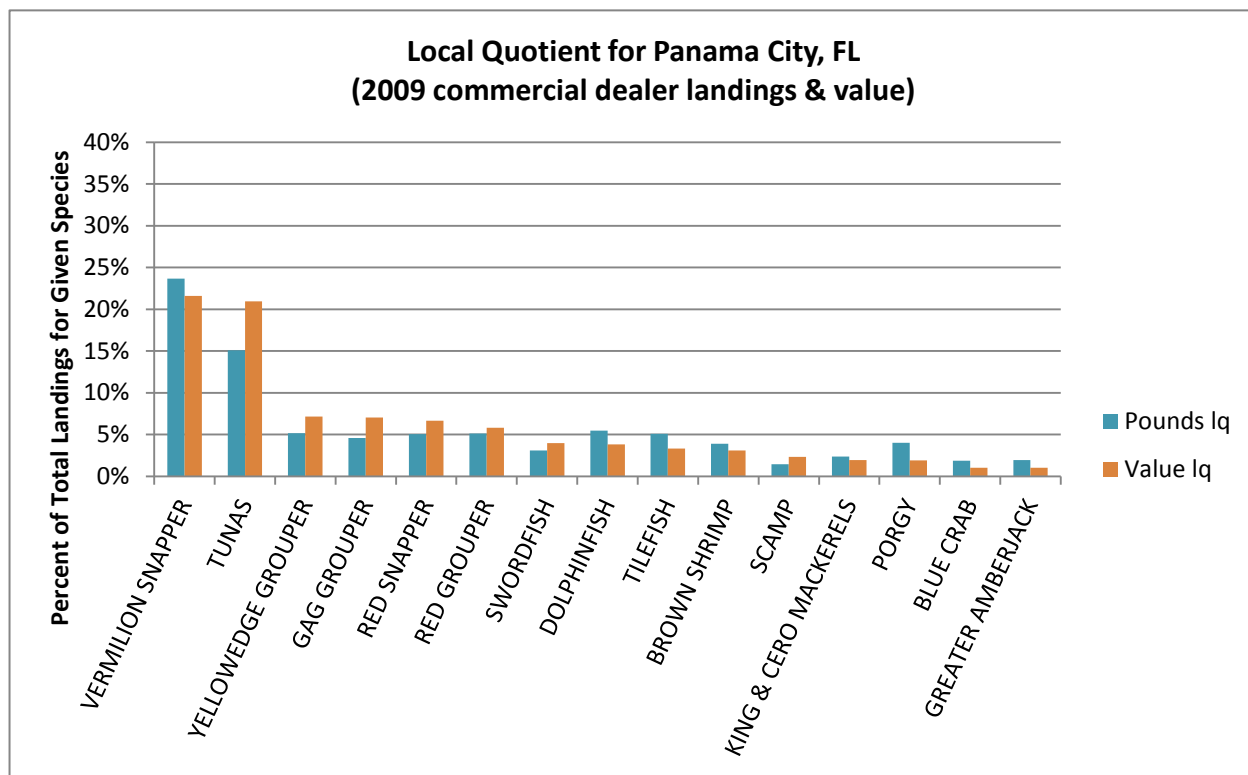


Figure 3.4.5. Proportion (lq) of commercial landings and value for top 15 species out of total commercial landings and value for Panama City, Florida. Source: ALS dealer reports 2009.

Pensacola

Pensacola ranked tenth in terms of number of reef fish charter/headboat permits in 2010 with 35 federal permits. Pensacola also ranks sixth in terms of commercial red snapper landings in 2011 (Figure 3.4.2). Of the commercially landed species, red snapper makes up about 6% of all commercial landings in pounds and 10% in value (Figure 3.4.6).

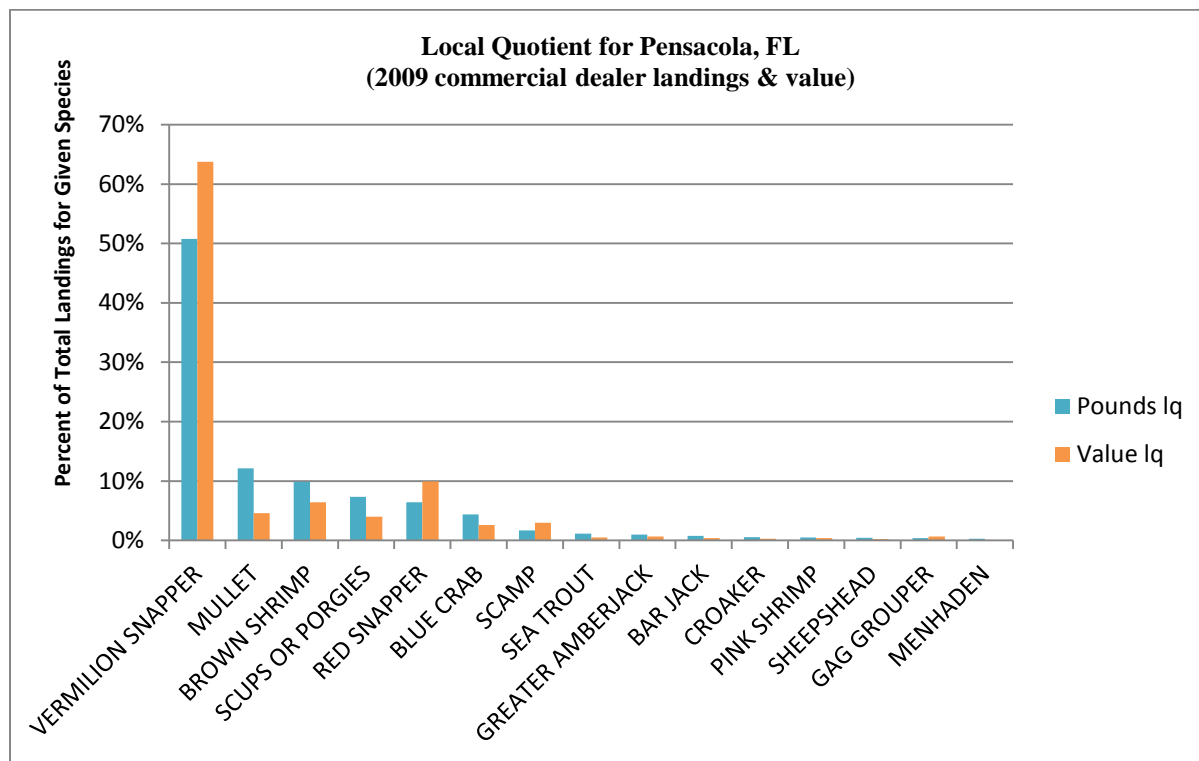


Figure 3.4.6. Proportion (lq) of commercial landings and value for top 15 species out of total commercial landings and value for Pensacola, Florida. Source: ALS dealer reports 2009.

Apalachicola

Apalachicola ranked seventeenth in terms of the number of reef fish charter/headboat permits in 2010 with 20 federal permits. Apalachicola also ranks eighth in terms of commercial red snapper landings in 2011 (Figure 3.4.2). Of the commercially landed species, red snapper makes up about 1% of all commercial landings (Figure 3.4.7).

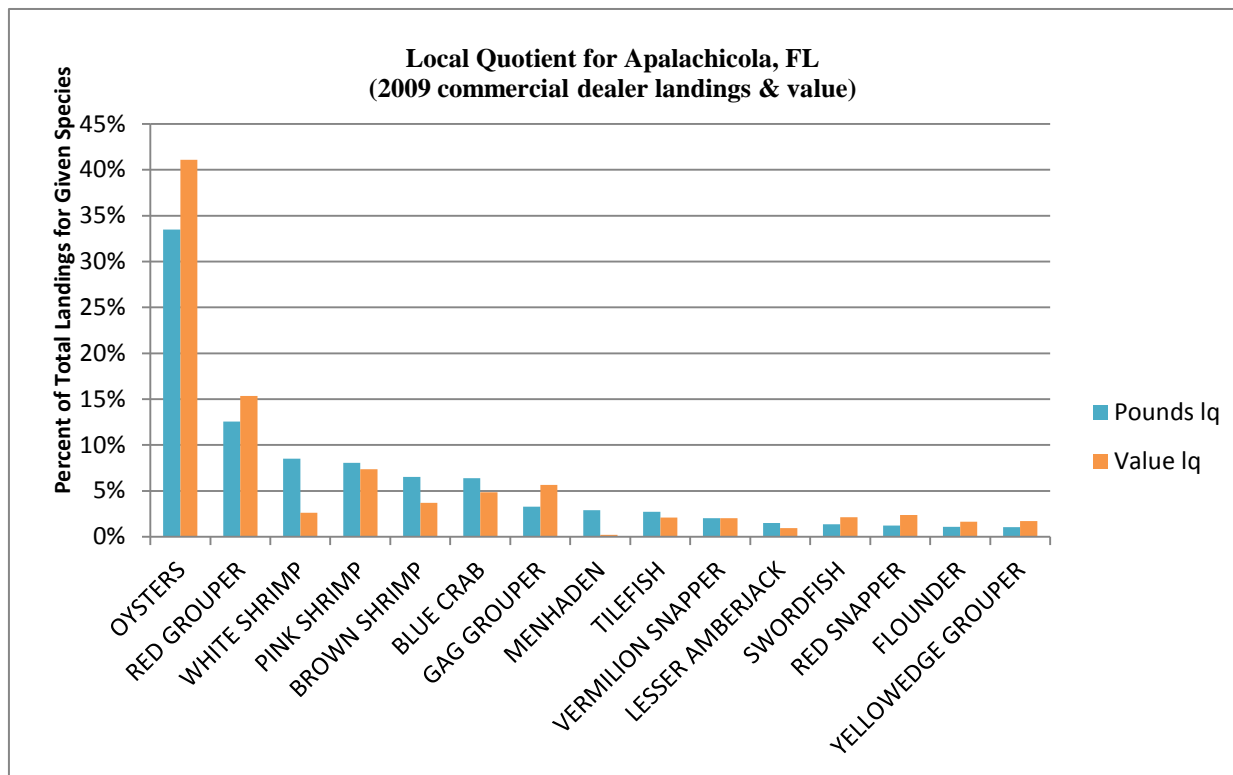


Figure 3.4.7. Proportion (lq) of commercial landings and value for top 15 species out of total commercial landings and value for Apalachicola, Florida. Source: ALS dealer reports 2009.

3.5. Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider “the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories...” This executive order is generally referred to as environmental justice (EJ).

Red snapper fishermen (commercial and recreational) and associated businesses and communities along the Gulf of Mexico coast would be expected to be affected by this proposed

action. However, information on race, ethnicity, and income status for groups at the different participation levels (vessel owners, crew, dealers, processors, employees, etc.) is not available. Because this proposed action could be expected to affect fishermen and associated industries in numerous communities along the Gulf of Mexico coast, census data (available at the county level, only) have been assessed to examine whether any coastal counties have poverty or minority rates that exceed the EJ thresholds.

The threshold for comparison that was used was 1.2 times the state average such that, if the value for the county was greater than or equal to 1.2 times the state average, then the county was considered an area of potential EJ concern (EPA 1999). Census data for the year 2010 was used. For Florida, the estimate of the minority (interpreted as non-white, including Hispanic) population was 39.5%, while 13.2% of the total population was estimated to be below the poverty line. These values translate in EJ thresholds of approximately 47.4% and 15.8%, respectively (Table 3.5.1). Based on the demographic information provided, no potential EJ concern is evident with regard to the percent of minorities for the counties of the west coast of Florida. With regard for poverty, Dixie (3.8%), Franklin (8%), Gulf (1.7%), Jefferson (4.6%), Levy (3.3%), and Taylor (7.1%) counties exceed the threshold by the percentage noted. No potential EJ concern is evident for the remaining counties which fall below the poverty and minority thresholds. The same method was applied to the remaining Gulf of Mexico states.

Table 3.5.1. Each state's average proportion of minorities and population living in poverty, and the corresponding threshold used to consider an area of potential EJ concern (Census Bureau 2010).

State	Minorities		Poverty	
	% Population	EJ Threshold	% Population	EJ Threshold
FL	39.5	47.4	13.2	15.8
AL	31.5	37.8	16.8	20.2
MS	41.2	49.4	21.4	25.7
LA	38.2	45.8	18.4	22.1
TX	52.3	62.7	16.8	20.1

In Alabama, Mobile was the only county to exceed the minority threshold (by 1.7%). Neither of Alabama's coastal counties exceeded the poverty threshold for potential EJ concern. No coastal county in Mississippi exceeded either threshold. In Louisiana, Orleans Parish exceeded the minority threshold by 25% and the poverty threshold by 1.3%. Texas has several counties that exceeded the thresholds. In descending order of magnitude for exceeding the minority threshold were Willacy (26.3%), Cameron (24.7%), Kleberg (12.3%), Kenedy (9%), Nueces (2.8%), and Harris (0.8%). Exceeding the poverty threshold were Kenedy (32.3%), Willacy (26.8%), Cameron (15.6%), Kleberg (6%), and Matagorda (1.8%). Willacy, Kenedy, Cameron, and Kleberg counties exceed both the minority and poverty thresholds and are the communities identified as most likely to be vulnerable to EJ concerns.

Table 3.4.2 provides a summary of 20 communities considered substantially dependent on recreational fishing, Figure 3.4.2 depicts the top 10 communities with the greatest landings of red

snapper, and Table 3.4.3 depicts the top communities with the greatest number of commercial red snapper IFQ holders. In comparing these communities with the preceding analysis identifying counties with potential EJ concerns, six of the communities listed as important to recreational or commercial fishing are located in five counties identified as having potential for EJ concerns. In Florida, both Apalachicola and Carrabelle are located in Franklin County, which exceeded the poverty threshold by 8%; Port St. Joe in Gulf County exceeded the poverty threshold by 1.7%. Dauphin Island in Mobile County, Alabama exceeded the minority threshold for EJ concerns by 1.7%, but did not exceed the poverty threshold. In Texas, Port Aransas in Nueces County exceeded the minority threshold by 2.8% and Matagorda in Matagorda County exceeded the poverty threshold by 1.8%.

People in these communities may be affected by fishing regulations in two main ways: participation and employment. Although these communities may have the greatest potential for EJ concerns, no data are available on the race and income status for those involved in the local fishing industry (employment), or for their dependence on red snapper specifically (participation).

Preferred Alternative 2 of Action 1 would increase the quota for both the recreational and commercial sectors which should positively benefit the communities involved in red snapper fishing and processing by allowing more fish to be caught. No impacts are expected from the proposed bag limit change in **Action 2**, as the no action alternative is selected as preferred.

3.6 Description of the Administrative Environment

3.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the Exclusive Economic Zone (EEZ), an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the EEZ.

Responsibility for federal fishery management is shared by the Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring management measures are consistent with the Magnuson-Stevens Act and with other applicable laws summarized in Appendix C. In most cases, the Secretary has delegated this authority to NMFS.

The Council is responsible for fishery resources in federal waters of the Gulf of Mexico. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi,

and Louisiana. The length of the Gulf of Mexico coastline is approximately 1,631 miles. Florida has the longest coastline of 770 miles along its Gulf of Mexico coast, followed by Louisiana (397 miles), Texas (361 miles), Alabama (53 miles), and Mississippi (44 miles).

The Council consists of seventeen voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NMFS. The public is also involved in the fishery management process through participation on advisory panels and through Council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is also in accordance with the Administrative Procedures Act, in the form of “notice and comment” rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

Regulations contained within FMPs are enforced through actions of the NOAA’s Office of Law Enforcement, the United States Coast Guard, and various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the Magnuson-Stevens Act. These activities are being coordinated by the Council’s Law Enforcement Advisory Panel and the Gulf States Marine Fisheries Commission’s Law Enforcement Committee, which have developed a 5-year “Gulf of Mexico Cooperative Law Enforcement Strategic Plan – 2008-2012.”

The red snapper stock in the Gulf of Mexico is classified as overfished, but no longer undergoing overfishing. A rebuilding plan for red snapper was first implemented under Amendment 1 (GMFMC 1989), and has undergone several revisions. The current rebuilding plan was established in Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007), and calls for rebuilding the stock to a level capable of supporting maximum sustainable yield on a continuing basis by 2032. Periodic adjustments to the annual catch limit and other management measures needed to affect rebuilding are implemented through regulatory amendments.

3.6.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries. Each of the five Gulf of Mexico states exercises legislative and regulatory authority over their respective state’s natural resources through discrete administrative units. Although each agency is the primary administrative body with respect to the states natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources. A more detailed description of each state’s primary regulatory agency for marine resources is provided in Amendment 22 (GMFMC 2004a).

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1: Modify the 2013 Red Snapper Quotas

4.1.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment when fishing for red snapper have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 and are incorporated here by reference (GMFMC 2004a, GMFMC 2007). The alternatives that change the harvest limits could directly affect the physical environment, due to the increase in the amount of fishing effort and gear type interacting with the substrate over the course of the fishing season. However, a minor increase in season length is not likely to cause substantial effects to the physical environment. The commercial sector operates under an individual fishing quota (IFQ) system which has resulted in no quota closure to date. Thus, although the quota may affect the level of commercial fishing effort, the commercial fishing season is expected to be open year-round regardless of the quota. Gear type and soak time together affect the total amount of indirect impacts on the physical environment.

The primary gear used in commercial and recreational fishing for red snapper is vertical line gear. Some commercial landings are from bottom longlines, but this component of the commercial sector lands a low percentage of the total commercial harvest (SEDAR 7 2005). Vertical line gear has the potential to snag and entangle bottom structures. Each individual gear has a very small footprint and thus only a small potential for impact, but the cumulative impact of the commercial and recreational fishing sector results in a large amount of gear being placed in the water, increasing the potential for impact. The line and weights used by this gear type also can cause abrasions (Barnette 2001). Additionally, vertical line vessels often anchor when fishing, adding to the potential damage of the bottom at fishing locations. Bottom longlines have the potential to break or move hard structures on the sea floor, including rocks, corals, sponges, other invertebrates, and algae, when the line sweeps the bottom (Barnette 2001). If vertical and longline gear are not removed, long-term indirect effects to habitat may occur if the line becomes overgrown with algae or marine life becomes entangled (Hamilton 2000; Barnette 2001).

Alternative 1 (no action) would continue the 2012 stock acceptable biological catch (ABC) of 8.08 million pounds (mp), and result in no changes to the commercial or recreational quotas. Therefore, this alternative should have no additional effects on the physical environment. Both **Preferred Alternative 2** and **Alternative 3** would increase the stock ABC to 8.46 mp for 2013. However, **Alternative 3** would implement a buffer between the ABC and the quota, set at a 0% buffer for the commercial sector and a 20% buffer for the recreational sector. **Alternative 3** would have the same effects as **Preferred Alternative 2** for the commercial sector. If the 20% buffer on the recreational sector reduces the overall fishing effort, **Alternative 3** may have fewer effects on the physical environment than **Preferred Alternative 2**. These alternatives would be expected to have greater impacts on the physical environment when compared with **Alternative 1**, because they are expected to allow for the greatest levels of fishing effort and most opportunities for gear interactions with habitat.

4.1.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper and from changes in total allowable catch (sector quotas) have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004a and 2007) and in the February 2010 Regulatory Amendment (GMFMC 2010) and are incorporated here by reference. Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a) and are also incorporated here by reference.

All three alternatives would allow the stock to recover resulting in positive direct effects and maintaining consistency with the rebuilding plan. Any future increases in the quotas would also need to be consistent with this plan. **Alternative 1**, because it has the lowest quotas, may allow the stock to recover more quickly than **Preferred Alternative 2** and **Alternative 3**. **Alternative 1** would also provide the greatest protection from overfishing should the stock projections be overly optimistic or should some change occur in the stock that lowers its productivity, such as an episodic mortality event, natural disturbance, or a negative impact from the Deepwater Horizon MC252 oil spill that is as yet unrealized. **Preferred Alternative 2** would allow an increase in red snapper harvest in 2013 at the maximum harvest level possible without exceeding the ABC. Due to overharvest by the recreational sector, the ABC has been exceeded in four of the last five years. The ABC was not exceeded in 2010, the year of the Deepwater Horizon MC252 oil spill, due to reductions in fishing effort resulting from large area closures that were in place for most of the summer. Because of the buffer between the overfishing limit (OFL) and ABC, overfishing has not occurred and the rebuilding plan has remained on schedule. However, this was determined only after an evaluation of the impacts of the overage by the Southeast Fisheries Science Center and the Scientific and Statistical Committee (SSC).

Alternative 3 would allow the commercial sector to harvest the same quota as **Preferred Alternative 2**. A buffer for the commercial sector is not believed to be necessary because the commercial sector has not exceeded its quota since implementation of the IFQ program in 2007. However, **Alternative 3** would set the recreational quota at 20% below the sector's portion of the ABC. This would result in a recreational quota that is lower than both **Alternative 1** and **Preferred Alternative 2** in 2013. In **Alternative 3**, the purpose of the recreational buffer is to address management uncertainty and reduce the likelihood that the recreational sector would exceed its quota. The recreational sector has exceeded its quota by more than 17% in two of the last four years, and based on preliminary landings data, by approximately 46% in 2012 (Linton 2012) which far exceeds the proposed 20% buffer in **Alternative 3**. Compared to **Preferred Alternative 2**, **Alternative 3** reduces the likelihood of the recreation quota from being exceeded thereby affording more protection to the red snapper resource.

Indirect effects of these alternatives on the biological and ecological environment are not well understood. Changes in the population size structure, as a result of shifting fishing selectivities and increases in stock abundance, could lead to changes in the abundance of other reef fish species that compete with red snapper for shelter and food. Predators of red snapper could increase if red snapper abundance is increased, while species competing for similar resources as red snapper could potentially decrease in abundance if food and/or shelter are less available.

Another effect of an expanding red snapper population could be a continuation of the reestablishment of red snapper populations in historical areas of occurrence in the eastern Gulf of Mexico. As the red snapper stock rebuilds, one effect is that the average size of a red snapper caught from recreational fishing is also increasing. As a result, the recreational quota is being reached faster with a smaller number of fish, resulting in shorter seasons even with quota increases. As a result, fishermen who are unable to target red snapper during the closed season may choose to target other species. Species likely to be affected by changes in red snapper abundance the most include vermilion snapper, gray triggerfish, and gag, which all co-occur with red snapper.

The proposed action relates to the harvest of an indigenous species in the Gulf of Mexico, and proposes only to increase that harvest, consistent with the most recent stock assessment for the species. Changing allowable harvest may pose the potential to shift fishing effort from other species in the Gulf of Mexico. However, the activity being altered does not itself introduce non-indigenous species, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non-indigenous species.

4.1.3 Direct and Indirect Effects on the Economic Environment

The methods used and assumptions made to evaluate expected economic effects of proposed alternatives are detailed in previous red snapper regulatory amendments (GMFMC 2010 and 2011a), and are incorporated herein by reference. Therefore, the economic sections included in this document are limited to a presentation and discussion of the expected effects.

4.1.3.1 Effects on the Commercial Sector

The commercial sector's red snapper allocation of the annual catch limit is implemented as a quota. Table 4.1.3.1.1 provides the increases in the commercial red snapper quota that would result from the alternatives considered and estimates of the associated expected increases in ex-vessel value, gross revenues (ex-vessel value net of 3% cost recovery fee), share value, and allocation value. These results are based on medians of \$4.25, \$25.00, and \$3.00 for ex-vessel value, share, and allocation prices, respectively, derived from 2011 transactions. The average values in 2011 for the ex-vessel, share, and allocation prices were \$3.57, \$19.36, and \$2.79 per pound gw, respectively. Median values, however, were used in this analysis because of the large number of zeroes reported in share and allocation transactions.

Table 4.1.3.1.1. Increases in commercial quotas, ex-vessel values, gross revenues, shares and allocation values relative to Alternative 1. Quota in pounds; dollar values in 2011 dollars.

Commercial Quota		Ex-Vessel Value	Gross Revenues	Share Value	Allocation Value
whole weight	gutted weight				
194,000	174774.77	\$742,793	\$720,509	\$4,369,369	\$524,324

Source: NMFS SERO

Alternative 1 would maintain the current commercial red snapper quota of approximately 4.121 mp ww. Therefore, changes in ex-vessel value, gross revenue, and share and allocation value would not be expected to result from this alternative.

Relative to **Alternative 1**, **Preferred Alternative 2** would increase the 2013 commercial red snapper quota by 194,000 lbs ww. Relative to **Alternative 1**, the expected changes in ex-vessel value and in gross revenue expected to result from the 2013 quota increase are estimated to be approximately \$0.743 million and \$0.720 million, respectively. **Preferred Alternative 2** and **Alternative 3** would increase the commercial red snapper quota by the same amount. Thus, the economic effects expected to result from **Alternative 3** are identical to the effects estimated for **Preferred Alternative 2**.

Although IFQ shares are legally considered a privilege that can be revoked, they are assets that can be freely exchanged in markets and used as collateral for loans. Assuming that red snapper IFQ shares are traded in well-functioning markets, IFQ share prices should be a reflection of the stream of discounted net benefits expected to be derived from holding an additional unit of IFQ share. Detailed discussions on IFQ markets and on determinants of share prices in IFQ markets are provided in Newell et al. (2005a, 2005b). Therefore, an evaluation of potential economic effects based on changes in overall asset values would capture changes in economic effects in the longer term. In addition, short run effects could be approximated by the changes in the aggregate value of red snapper annual allocations. A potential commercial quota increase of approximately 194,000 lbs ww in 2013 would correspond to a \$4.37 million increase in IFQ share value, while annual leasing of the same quantity of additional shares would be expected to yield about \$0.524 million.

4.1.3.2 Effects on the Recreational Sector

The economic effects of the proposed alternatives on recreational anglers were evaluated in terms of expected changes in economic benefits as measured by changes in consumer surplus; consumer surplus is the amount of money that an angler would be willing to pay for a fishing trip in excess of the cost of the trip. The estimated changes in consumer surplus were computed based on an average consumer surplus of \$56.42 (2011 dollars) per angler trip. The comparable measure of economic benefits for for-hire vessels is producer surplus; producer surplus is the amount of money that a vessel owner earns in excess of the cost of providing the trip. Net operating revenues, which are the return used to pay all labor wages, returns to capital, and owner profits, are used as the proxy for producer surplus. For the charter boat and the headboat industries, the estimated changes in producer surplus were calculated based on average net operating revenues of \$154.62 per target charter angler trip and \$51.19 (\$2011) per target headboat angler trip (David Carter, NMFS SEFSC, personal communication, February 16, 2012). Because of the decline in effort in 2010, likely attributable to closures associated with the Deepwater Horizon MC252 oil spill, despite the quota increase, examination of effort response to quota changes from 2009 through 2011¹ did not identify a reliable pattern to use in the estimation of the expected change in angler effort under the proposed alternatives. As a result, the projected changes in recreational target effort in this analysis were based on the ratio of target effort per pound of quota from 2011. For example, hypothetically, if the ratio for private angler

¹ Data for 2012 were not available at the time of this analysis.

trips was 10 lb per target trip, then the analysis would project that for every 10 lb of quota increase, one additional private angler target trip would be generated. This methodological approach may result in over-estimation of actual effects because it is based on potentially circumstantial relationships rather than a more sophisticated behavior response model. However, the use of this methodological approach would not be expected to affect the ranking of alternatives based on the expected change in economic benefits. The estimated changes in target trips, consumer surplus, and net operating revenues expected to result from **Preferred Alternative 2** and **Alternative 3** are provided in Table 4.1.3.2.1. All consumer surplus and net operating revenues are in 2011 dollars.

Table 4.1.3.2.1. Estimated changes in red snapper target trips, consumer surplus and net operating revenues relative to Alternative 1. All values are in 2011 dollars.

Alternative	Sector	Trips	Consumer Surplus	Net Operating Revenues
Preferred Alternative 2	Private Anglers	16,536	\$932,908	
	Charter boat	3,247	\$183,203	\$502,113
	Headboat	10,987	\$619,856	\$562,462
	Total	30,770	\$1,735,967	\$1,064,575
Alternative 3	Private Anglers	-57,165	-\$3,225,052	
	Charter boat	-11,226	-\$633,332	-\$1,735,799
	Headboat	-37,982	-\$2,142,836	-\$1,944,425
	Total	-106,373	-\$6,001,220	-\$3,680,224

Source: NMFS SERO.

Preferred Alternative 2 would increase the recreational quota in 2013 by 186,000 lbs ww. Compared to **Alternative 1**, **Preferred Alternative 2** is estimated to result in approximately 30,770 more red snapper target trips across all modes. Relative to the **Alternative 1**, **Preferred Alternative 2** would be expected to result in an increase in consumer surplus and net operating revenues of approximately \$1.74 million and \$1.06 million, respectively.

Alternative 3 would reduce the red snapper recreational quota by 643,000 lbs ww. Compared to **Alternative 1**, **Alternative 3** is estimated to result in approximately 106,373 fewer red snapper target trips across all modes. Relative to **Alternative 1**, **Alternative 3** would be expected to result in a net consumer surplus loss estimated at approximately \$6.00 million. For the charter and headboat sectors, combined losses in net operating revenues are estimated at approximately \$3.68 million.

4.1.3.3 Economic Activity Associated with Estimated Economic Effects

This section provides estimates of the economic activity associated with the potential changes in commercial ex-vessel revenues and recreational angler trips that may occur as a result of the proposed management measures. This economic activity is characterized in the form of full time equivalent (FTE) jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of

goods and the cost of materials or supplies). Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. These estimates are provided to inform the decision process of the potential consequences of the proposed management actions. Methods used and assumptions made to estimate changes in economic activity reported in this section are detailed in the February 2010 Regulatory Amendment (GMFMC 2010) and are incorporated herein by reference.

Table 4.1.3.3.1 provides estimates of the potential change in economic activity associated with the estimated change in recreational trips for **Preferred Alternative 2** and **Alternative 3** relative to **Alternative 1**. **Preferred Alternative 2** would be expected to support 23 FTE jobs, approximately \$2.18 million in output (sales) impacts, and approximately \$1.23 million in value-added impacts more than **Alternative 1**. Compared to **Alternative 1**, **Alternative 3** would be expected to reduce employment, output and value added impacts by 81 FTE jobs, and approximately \$7.55 million in output (sales) impacts, and approximately \$4.26 million in value-added impacts.

Table 4.1.3.3.1. Potential changes in economic activity associated with the estimated change in recreational trips. All values are in 2011 dollars.

	Preferred Alternative 2	Alternative 3
Private/Rental Sector		
Trips	16,536	-57,165
Output Impact	\$1,004,083	-\$3,471,128
Value Added Impact	\$551,783	-\$1,907,518
Jobs	9	-34
Charter Sector		
Trips	3,247	-11,226
Output Impact	\$1,180,432	-\$4,081,163
Value Added Impact	\$681,996	-\$2,357,897
Jobs	14	-47
All Sectors		
Output Impact	\$2,184,515	-\$7,552,291
Value Added Impact	\$1,233,779	-\$4,265,415
Jobs	23	-81

Table 4.1.3.3.2 provides estimates of the potential change in economic activity associated with the estimated change in commercial ex-vessel revenues for **Preferred Alternative 2** relative to **Alternative 1**. Based on an estimated increase in ex-vessel revenues of approximately \$742,793, **Preferred Alternative 2** would be expected to support a total of 139 FTE jobs, approximately \$4.17 million in income impacts, and approximately \$9.78 million in output (sales) impacts more than **Alternative 1**. **Alternative 3** would be expected to result in similar changes in economic activity because it would increase the commercial red snapper quota by the same amount.

Table 4.1.3.3.2. Potential changes in economic activity associated with the estimated change in the commercial sector ex-vessel revenues. All values are in 2011 dollars.

Industry Sector	Preferred Alternative 2
Ex-vessel revenues	\$742,793
Harvesters	
Employment impacts (FTE jobs)	18
Income Impacts	\$612,542
Output Impacts	\$1,592,056
Primary dealers/processors	
Employment impacts (FTE jobs)	11
Income Impacts	\$515,050
Output Impacts	\$1,602,660
Secondary wholesalers/distributors	
Employment impacts (FTE jobs)	9
Income Impacts	\$504,038
Output Impacts	\$1,181,820
Grocers	
Employment impacts (FTE jobs)	6
Income Impacts	\$209,739
Output Impacts	\$456,276
Restaurants	
Employment impacts (FTE jobs)	95
Income Impacts	\$2,326,764
Output Impacts	\$4,947,174
Total	
Employment impacts (FTE jobs)	139
Income Impacts	\$4,168,134
Output Impacts	\$9,779,986

4.1.4 Direct and Indirect Effects on the Social Environment

Direct impacts on the human environment resulting from this action will relate to the amount of fish available for harvest compared with the current quota (**Alternative 1**, no action). If the buffer assigned to a quota is insufficient to avoid exceeding the ABC, indirect impacts would result as future quota increases are not realized. Generally, positive impacts are expected if a greater amount of fish is allowed to be caught, and negative impacts result when less fish are allowed to be caught. Because of the different management measures under which each sector operates, however, impacts may accrue differently to the commercial sector (operating under an IFQ program) and the recreational sector (operating under a bag limit and closed season) in terms of the size of the quota.

Usually, impacts do not arise from maintaining the status quo (**Alternative 1**) because no change is made. Compared to **Alternative 1**, the increases in the quotas specified by **Preferred Alternative 2** are expected to result in positive impacts for both sectors as more fish are allowed to be caught. **Preferred Alternative 2** specifies a quota increase of 4.5% for both the commercial and recreational sectors, relative to **Alternative 1**.

Because the recreational sector has exceeded their quota in four out of five years, **Alternative 3** decreases the quota for the recreational sector (from **Alternative 1**) to include a buffer of 20%. However, **Alternative 3** maintains the increase for the commercial sector of 4.5% (from the status quo of **Alternative 1** and equivalent to **Preferred Alternative 2**) and does not use a buffer. In contrast with the commercial sector's reporting requirements of the IFQ program, it is more likely for the recreational sector to exceed its quota. The 20% buffer assigned to the recreational sector under **Alternative 3** is a management tool intended to curb fishing effort to avoid exceeding the stock ABC. Thus, although the buffer of **Alternative 3** effectively reduces the quota by 20% (less fish available for harvest resulting in short-term negative impacts) compared to **Preferred Alternative 2**, the buffer would reduce the likelihood that the recreational sector will exceed the stock ABC and thus realize a quota increase the following year (more fish available for future harvest resulting in positive impacts for the long-term). If the buffer serves to prevent the recreational sector from exceeding the stock ABC, positive impacts accrue to both sectors through an increase in the following year's quota.

4.1.5 Direct and Indirect Effects on the Administrative Environment

None of the alternatives should result in any direct or indirect effects to the administrative environment, because the type of regulations needed to manage the red snapper component of the reef fish fishery would remain unchanged regardless of the commercial and recreational quotas. The NMFS law enforcement, in cooperation with state agencies, would continue to monitor regulatory compliance with existing regulations and NMFS would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels. The enforcement and administrative environments were recently enhanced with an IFQ program for the commercial red snapper sector, requiring NMFS to monitor the sale of red snapper IFQ shares, and a vessel monitoring system in the reef fish fishery. Recordkeeping requirements for IFQ shares have improved commercial quota monitoring and prevent or limit overages from occurring. The IFQ and vessel monitoring system requirements have reduced the burden of monitoring compliance with commercial fishing regulations.

4.2 Action 2: Modify the Recreational Bag Limit for Red Snapper

4.2.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment resulting from the harvest of red snapper by the reef fish fishery have been discussed in detail in Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004a and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010); these documents are incorporated here by reference.

The potential impacts from various gear types are discussed in Section 4.1.1. The alternatives to change the bag limit would not directly affect the physical environment. However, if changes to the bag limit result in changes in fishing effort, the physical environment could be impacted indirectly.

Under a 2-red snapper bag limit (**Preferred Alternative 1**) the recreational red snapper fishing season was 46 days in 2012. The quota was exceeded by at least 1.84 mp or 46%, based on preliminary data (Linton 2012). Thus, an even shorter season would be expected for 2013 with the same quota (SERO-LAPP 2012-011). Even if the quota was increased to 4.145 mp (Action 1, Alternative 2), the 2012 landings would be 1.65 mp or 40% greater than that amount. Therefore, under **Preferred Alternative 1**, the recreational red snapper season in 2013 would be expected to be shorter than in 2012, resulting in less fishing effort and fewer adverse indirect effects to the physical environment from fishing activities.

With **Alternatives 2 and 3**, effort may increase relative to **Preferred Alternative 1**. Effort is a function of the number of trips and the duration of fishing time per trip. As the number of trips increases, the duration of each trip may also change. If fishermen make trips solely to target red snapper, and return to port after catching their bag limit, a decrease in the bag limit should result in a decrease in trip duration. However, most fishing trips are not only about catching the bag limit, but also the experience of a fishing trip. Fishermen may continue to fish after catching the bag limit of red snapper by targeting other species, or practicing catch and release of red snapper. Some fishermen may also continue fishing for red snapper to try to catch a larger fish. Therefore, it is reasonable to assume that trip duration would not decrease if the red snapper bag limit is decreased.

Alternative 2 would reduce landings by 38% relative to 2012, if the season length remained the same (SERO-LAPP-2012-11). Because recreational landings are estimated to have exceeded the quota by at least 46% in 2012 (Linton 2012), the 2013 season would be expected to be shorter than 46 days, although still longer by 60% than with **Preferred Alternative 1**. Increasing the length of the season would be expected to increase the number of trips, and thus effort. Consequently, **Alternative 2** could result in greater adverse indirect impacts to the physical environment than **Preferred Alternative 1**.

Alternative 3 would reduce landings by 63% relative to 2012, if the season length remained the same (SERO-LAPP-2012-11). Because recreational landings are estimated to have exceeded the quota by less than this amount in 2012 (Linton 2012), the 2013 season would be expected to be longer than 46 days. Relative to **Preferred Alternative 1**, with **Alternative 3** the season could be 169% longer. Increasing the length of the season would be expected to increase the number of trips, and thus the effort. Consequently, **Alternative 3** could result in greater adverse indirect impacts to the physical environment than **Preferred Alternative 1** and **Alternative 2**.

4.2.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp 14 (GMFMC 2004a and 2007) and in the February 2010 Regulatory Amendment

(GMFMC 2010) and are incorporated here by reference. Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a) and in Section 4.1.2.

The impacts of changing the bag limit are expected to be minimal because modifying the bag limit would not affect the total amount of harvest. Although the rate of harvest would be reduced from 2012 with **Alternatives 2** and **3** by 38% and 63%, respectively, these reductions are calculated based on the 46-day 2012 season (SERO-LAPP-2012-11). To set the 2013 season length, scientists calculate the number of days fishing can be allowed to harvest the quota. Therefore, any decrease in landings per day would result in a corresponding increase in the number of days open with **Alternatives 2** and **3** relative to **Preferred Alternative 1**.

A decrease in the bag limit would be expected to increase discards of red snapper. Recreational discard mortality of red snapper was estimated by eastern and western region in the Southeast Data Assessment and Review (SEDAR 7 2005). The report found regardless of study methodology or region, a consistent trend among discard mortality data was suggested by a positive correlation between depth and mortality. The release mortality for recreational caught red snapper was averaged by region and estimated at 21% (Table 6.5; SEDAR 7 2005). However, the recent data workshop report for red snapper, SEDAR 31, found that release mortality was related less to region and more on a combination of factors including, but not limited to, depth, thermal stress, venting versus non-venting, and handling time (http://www.sefsc.noaa.gov/sedar/download/SEDAR%2031%20Data%20Workshop%20Report%20FINAL_sizereduced.pdf?id=DOCUMENT).

Fifty-nine percent of anglers average landing more than 1 red snapper per person per trip (Figure 2.2.1). If 1 red snapper per angler (**Alternative 2**) was selected as the preferred alternative and anglers continue to fish after catching their first red snapper, they may catch another, either intentionally or while targeting other species. In that case anglers may release the second fish, or if it is larger, they may release the first fish caught (high-grading), which would likely be dead. Mortality would be expected to be greater if high-grading occurs, because this involves discarding a fish that has possibly been put on ice, as opposed to releasing a fish caught incidentally. With **Alternative 3**, even more discards would be expected, particularly on headboats with multiple passengers. The extent to which high-grading would occur is unknown and dependent on angler's behavior.

4.2.3 Direct and Indirect Effects on the Economic Environment

Preferred Alternative 1 would maintain the red snapper daily possession limit at 2 fish per angler. Therefore, economic effects are not expected to result from **Preferred Alternative 1**. **Alternatives 2** and **3** consider modifications to the 2-fish red snapper bag limit. **Alternative 2** would establish a recreational red snapper bag limit of 1 fish per angler per day. **Alternative 3** would implement a fractional bag limit and set a limit of 1 fish per 2 anglers per day.

For a given recreational red snapper quota, changes in consumer and producer surplus would determine the economic effects expected to result from **Alternative 2** relative to **Preferred Alternative 1**. While red snapper are one of the most sought after target species in the Gulf of

Mexico, it is assumed that for-hire operators would not experience measurable changes in producer surplus per angler trip due to a reduction in the red snapper bag limit because their customers may have the ability to substitute other reef fish for red snapper. Therefore, economic effects that would be expected to result from **Alternative 2** would be determined by reductions in consumer surplus that would result from the substitution of angler trips with 1 fish per angler trip for angler trips with 2 red snapper per angler trip and increases in consumer surplus that would result from additional angler trips with 1 red snapper per angler trip.

Assuming an estimated average weight of 6.5 lbs per red snapper,² the current recreational red snapper quota of 3.959 mp ww would correspond to 609,077 fish to be harvested. If angler trips with 2 red snapper per trip account for 90% of the harvest,³ then the number of trips with 2 red snapper per trip would be estimated at 274,085. It follows that 60,907 angler trips, harvesting one fish per trip, would be needed to harvest the remainder of the quota (274,085 trips * 2 fish per trip = 548,170 fish; 609,077 – 548,170 = 60,907). Carter and Liese (2012) estimated the reduction in consumer surplus that would result from a decrease in the bag limit from 2 to 1 red snapper at \$62.97 (in 2003 dollars) per angler trip. In 2011 dollars,⁴ the reduction in consumer surplus is estimated at \$77.64 per angler trip. Therefore, the implementation of **Alternative 2** would be expected to result in a maximum potential reduction in consumer surplus estimated at \$21.28 million (274,085 angler trips * \$77.64 per angler trip).

Alternative 2 would also be expected to result in an increase in the number of angler trips able to harvest red snapper by 274,085 trips. These trips would be expected to result because the trips normally expected to harvest 2 fish, 274,085 trips, would only be allowed to keep 1 fish, thereby making 274,085 fish available for harvest. Because red snapper is a popular species, all available fish would be expected to be harvested. Thus, 274,085 available fish would equate to 274,085 angler trips. This total does not include the estimated 60,907 trips normally expected to harvest only 1 fish as these trips would be expected to be unaffected by the proposed reduction in the bag limit. These new trips could consist of trips that would not otherwise be expected to be taken or, as is more likely (see below), would be expected to be trips that otherwise would be taken targeting other species or which have no target preference but are now allowed to keep red snapper.

Because these would be new trips that harvest red snapper, they would be expected to result in an increase in consumer surplus. However, the increase in consumer surplus that would be expected to result from these additional trips and the net change in consumer surplus when combined with the reduction in consumer surplus for trips previously harvesting 2 fish, cannot be quantified because an estimate of the willingness to pay per trip for an increase in red snapper harvest from zero to 1 fish per angler trip is not available at this time. Based on marginality conditions, i.e., the unit (not total) value declines as more of a good is obtained, the value of the first fish should be greater than the value of the second, which should be greater than the value of

² Extrapolated weight from presentation by Andy Strelcheck, NMFS SERO, to GMFMC, October 30, 2012.

³ Based on a presentation by Andy Strelcheck, NMFS SERO, to GMFMC, October 30, 2012.

⁴ 2003 dollars were adjusted using the Bureau of Labor Statistics consumer price index (CPI) for urban consumers in the Southern region. Accessed December 28, 2012, the CPI index is available at: http://data.bls.gov/timeseries/CUUR0300SA0?data_tool=XGtable

the third fish, etc. As a result, it is expected that the increase in consumer surplus for a trip able to increase red snapper harvest from zero to 1 fish should be greater than the increase in consumer surplus of increasing harvest from 1 fish to 2 fish or, as in the current situation, reducing harvest from 2 fish to 1 fish. Thus, the expected increase in consumer surplus per trip for increasing the harvest from zero to 1 red snapper would be expected to be greater than \$77.64. Further, because the number of new trips allowed to keep a red snapper would be expected to be equal to the number of trips newly restricted to 1 fish, the expected gain in consumer surplus from new trips would be expected to exceed the loss in consumer surplus to trips limited to the lower bag limit and the proposed reduction would be expected to result in a net increase in consumer surplus. The actual change in consumer surplus, however, cannot be quantified because the increase per new trip is unknown.

The current estimate of the consumer surplus per trip, \$77.64, is assumed to be representative of anglers who target red snapper and value them more highly than other anglers. Anglers who do not target red snapper would be expected to place a lower value on the harvest of red snapper even though they may retain them, if allowed. Although there is a recreational red snapper quota, management prescribes a fixed season and places no limitation on the number of trips that harvest red snapper. As a result, the actual number of trips taken, and resultant harvest, depends on the number of trips taken and the harvest success per trip.

While the timing and length of the open season would be expected to have some effect on the number of red snapper target trips (personal restrictions and/or environmental conditions may prevent anglers from fishing when or as often as they would prefer), current management places no restriction on the number of red snapper target trips that can be taken. Therefore, it can be assumed that the majority of red snapper target trips that are “desired to be taken” occur during the normal open season. As a result, most of the “new” trips that would be expected to harvest the fish made available by the reduction in the bag limit would be harvested by trips that are not targeting red snapper. These trips would be expected to be trips already occurring that target other species (or have no target preference) and would now be allowed to harvest red snapper. Because these would not be red snapper target trips, the increase in consumer surplus associated with keeping a red snapper would not be expected to be greater than the loss experienced by anglers reduced to one fish. Thus, the outcome described in the previous paragraph, i.e., that a reduction in the bag limit to one fish would be expected to result in a net increase in consumer surplus, cannot be supported. Instead, based on available information, the net outcome would be indeterminate and, at best, only the maximum reduction in consumer surplus can be stated (approximately \$21.28 million), and an indeterminate amount of reduction of this loss would be expected to occur as consumer surplus is increased for new trips that would be allowed to harvest one red snapper.

Although the evaluation presented in this section was based on the status quo recreational red snapper quota, the conclusions would apply regardless of the size of the quota. Because of uncertainty about the number of new trips that would be target or non-target trips, and the absence of appropriate estimates of consumer surplus per trip, it cannot be stated whether the net effects of **Alternative 2** compared to **Preferred Alternative 1** would be an increase, decrease, or no change in consumer surplus.

Alternative 3 would decrease the recreational red snapper bag limit to 1 fish per 2 anglers per day. Because the reduction in the bag limit would be greater than under **Alternative 2**, the analytical problems, and associated net effects, would be exacerbated. The reduction in consumer surplus for anglers currently expected to harvest 2 fish would increase because all of the 274,085 angler trips with 2 red snapper per trip would experience the loss associated with a reduction in the harvest limit to 1 fish. Up to half of these anglers would also experience a reduction to zero fish (assuming anglers fish in even pairs, a 2-angler trip would be reduced from 4 fish to 1 fish, i.e., one angler would be able to keep 1 fish and the second zero fish). Additionally all 60,908 trips previously expected to harvest 1 fish would also be affected and be expected to experience reductions in consumer surplus. Although the fractional limit would allow for an increased number of new harvest trips (the 3 fish saved in the previous example would allow 6 anglers to fish for red snapper, at 0.5 fish per angler), the fractional harvest rate would be expected to reduce the increase in consumer surplus per trip associated with these trips. While it is possible to quantify the number of “compensating trips,” the associated increase in consumer surplus is unknown. Thus, a fractional limit would be expected to increase the potential maximum reduction in consumer surplus, which cannot be quantified with available data, and the increase in consumer surplus associated with new trips is unknown and the net change in consumer surplus relative to **Preferred Alternative 1** cannot be determined. However, **Alternative 3** would be likely to result in more adverse (or less positive) economic effects relative to **Alternative 2** due to the additional losses in consumer surplus that may be borne by anglers who fish alone or are in a fishing party with an odd number of anglers.

4.2.4 Direct and Indirect Effects on the Social Environment

Direct impacts would be expected from decreasing the bag limit, in order to realize the indirect benefits of a longer fishing season. Generally, there is a tradeoff between the length of the season and the size of the bag limit with some recreational anglers preferring a larger bag limit while others prefer a longer season. Thus, the season under a 2-fish bag limit (**Preferred Alternative 1**) is expected to be shorter than the season under a 1-fish bag limit (**Alternative 2**). A season where one fish may be landed per two anglers on board (**Alternative 3**) would be expected to result in the longest season.

Although some fishermen expressed willingness in public testimony to consider a bag limit reduction in exchange for a longer season, reducing the red snapper bag limit is likely to meet with public resistance. In other public testimony, fishermen frequently express frustration with the shortening season despite an increase in the size of the average landed fish, and the shorter amount of time it takes to catch the bag limit.

Table 2.2.1 provides the proportion of trips with red snapper landings per angler, by mode and source. For 2011, headboat and charter boat passengers (for all states except Texas) most frequently landed the 2-fish bag limit (72% and 78% respectively). Thus, negative impacts may be expected for a majority of these passengers through the reduction to a 1-fish bag limit (**Alternative 2**). Fewer anglers on private vessels landed 2-red snapper per angler per trip (53%), suggesting lesser impacts among anglers fishing from private vessels, compared with anglers on charter and headboats. Though these trips would be negatively impacted in terms of a smaller bag limit, the longer season that would likely result could be expected to mitigate these

impacts. Again, fishermen will be positively or negatively impacted depending on whether their preferred fishing activity coincides with the selected alternative (fewer trips and a larger bag limit, or a longer season with a smaller bag limit).

Fractional bag limits such as the one proposed under **Alternative 3** have not been used by the Council and could cause the most confusion for fishing. Although **Alternative 3** would be expected to result in the longest recreational fishing season, it would be more difficult to enforce and could be especially problematic on vessels where the anglers are not fishing as a group, such as on headboats.

4.2.5 Direct and Indirect Effects on the Administrative Environment

The alternatives in this action are expected to have nominal differences in the direct and indirect impacts on the administrative environment. **Preferred Alternative 1** (no action) would have the least burden on the administrative environment, because it would maintain the daily bag limit of 2 red snapper per angler per day. **Alternatives 2 and 3** would reduce the daily red snapper bag limit from **Preferred Alternative 1** creating an initial burden on the administrative environment. If the recreational red snapper bag limit is modified (**Alternative 2** or **Alternative 3**) stakeholders and law enforcement officials would need to educate themselves initially about this change in the regulations. However, after the initial change in the regulations has occurred no additional administrative burdens are expected.

4.3 Cumulative Effects Analysis

The cumulative effects from the red snapper rebuilding plan have been analyzed in Reef Fish Amendment 22 (GMFMC 2004a) and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007). Cumulative effects to the reef fish fishery have been analyzed in Reef Fish Amendments 30A (GMFMC 2008a), 30B (GMFMC 2008b) and 31 (GMFMC 2009), and are incorporated here by reference. The effects of setting the quota in this regulatory amendment are similar to those described in the February 2010 Regulatory Amendment (GMFMC 2010), and are most closely aligned with the effects from the revisions to the red snapper rebuilding plan in Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007). This analysis found the effects on the biophysical and socioeconomic environments are positive because they would ultimately restore and maintain the stock at a level that allows the maximum benefits in yield and commercial and recreational fishing opportunities to be achieved. However, short-term negative impacts on the socioeconomic environment associated with red snapper fishing have occurred under the rebuilding plan and are likely to continue due to the need to limit directed harvest and reduce bycatch mortality. These negative impacts can be minimized by selecting measures that would provide the least disruption to the red snapper component of the reef fish fishery while maintaining quotas consistent with the rebuilding plan. For the recreational sector, this would mean using a combination of bag limits and closed seasons to minimize disruptions, and for the commercial sector by using a combination of a size limit with the IFQ.

The cumulative effects from the Deepwater Horizon MC252 oil spill may not be known for several years. If there has been a reduction in spawning success in 2010, the impacts may not begin to manifest themselves until several years later when the fish that would have spawned in 2010 would have become large enough to enter the adult spawning population and be caught by red snapper fishers. For red snapper, this occurs at approximately 3 years of age, so a year class failure in 2010 may not be detected in the spawning populations or by harvesters of red snapper until 2013 at a minimum. The impacts would result in reduced fishing success and reduced spawning potential, and would need to be taken into consideration in the next SEDAR assessment. An increase in the ABC, combined with possible short-term increase in natural mortality to the stock from the oil spill, could negatively impact the stock. While there have been informal reports of lesions on red snapper in the oil affected areas, the information is preliminary and has not been correlated with impacts from the oil spill. Nevertheless, absent any firm information regarding the impacts to the red snapper stock from the Deepwater Horizon MC252 oil spill, the proposed action to increase the quotas and ABCs would minimize socioeconomic impacts and achieve the Council's designated optimum yield.

There is a large and growing body of literature on past, present, and future impacts of global climate change induced by human activities. Some of the likely effects commonly mentioned are sea level rise, increased frequency of severe weather events, and change in air and water temperatures. The Environmental Protection Agency's climate change web page provides basic background information on these and other measured or anticipated effects. In addition, Intergovernmental Panel on Climate Change has numerous reports addressing their assessments of climate change (http://www.ipcc.ch/publications_and_data/publications_and_data.shtml). Global climate changes could have significant effects on Gulf of Mexico fisheries; however, the extent of these effects is not known at this time. Possible impacts include temperature changes

in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (Kennedy et al. 2002). It is unclear how climate change would affect reef fishes, and likely would affect species differently. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, the distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Climate change may significantly impact Gulf of Mexico reef fish species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts would occur. Actions from this amendment are not expected to significantly contribute to climate change through the increase or decrease in the carbon footprint from fishing.

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by NMFS, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. Landings data for the recreational sector in the Gulf of Mexico are collected through MRFSS, NMFS's Head Boat Survey, and the Texas Marine Recreational Fishing Survey. MRFSS is currently being replaced by the Marine Recreational Information Program (MRIP), a program designed to improve the accuracy of monitoring of recreational fishing. Commercial data are collected through trip ticket programs, port samplers, and logbook programs, as well as dealer reporting through the IFQ program. Currently, a benchmark SEDAR assessment of Gulf of Mexico red snapper is ongoing.

CHAPTER 5. REGULATORY IMPACT REVIEW

5.1 Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem; and, (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way. The RIR also serves as the basis for determining whether the proposed regulations are a "significant regulatory action" under the criteria provided in Executive Order (E.O.) 12866 and provides some information that may be used in conducting an analysis of impacts on small business entities pursuant to the Regulatory Flexibility Act. This RIR analyzes the impacts that the proposed management alternatives in this framework action would be expected to have on the red snapper component of the reef fish fishery.

5.2 Problems and Objectives

The problems and objectives addressed by this proposed framework action are discussed in Section 1.1 of this document.

5.3 Description of Fisheries

A description of the Gulf of Mexico red snapper component of the reef fish fishery is provided in Section 3.3 of this document.

5.4 Impacts of Management Measures

5.4.1 Action 1: Modify the 2013 Red Snapper Quotas

A detailed analysis of the expected economic impacts of all alternatives considered for this action is contained in Section 4.1.3. Relative to **Alternative 1, Preferred Alternative 2** would increase the 2013 commercial red snapper quota by 194,000 lbs ww. Relative to **Alternative 1**, the changes in ex-vessel value and in gross revenue expected to result from the 2013 quota increase are estimated to be approximately \$0.743 million and \$0.720 million, respectively. Individual fishing quota (IFQ) shares are assets that can be freely exchanged in markets. Therefore, an evaluation of potential economic effects based on changes in overall asset values would capture changes in economic effects in the longer term. In addition, short run effects could be approximated by the changes in the aggregate value of red snapper annual allocations. A commercial quota increase of 194,000 lbs ww in 2013 would correspond to a \$4.37 million increase in IFQ share value, while annual leasing of the same quantity of additional shares would be expected to yield about \$0.524 million. The economic effects expected to result from

Alternative 3 are identical to the effects estimated for **Preferred Alternative 2** because these alternatives would increase the commercial quota by the same amount.

Preferred Alternative 2 would increase the recreational quota in 2013 by 186,000 lbs ww. Compared to **Alternative 1**, **Preferred Alternative 2** is estimated to result in approximately 30,770 more red snapper target trips across all modes. Relative to the **Alternative 1**, **Preferred Alternative 2** would be expected to result in an increase in consumer surplus and net operating revenues of approximately \$1.74 million and \$1.06 million, respectively. **Alternative 3** would reduce the red snapper recreational quota by 643,000 lbs ww. Compared to **Alternative 1**, **Alternative 3** is estimated to result in approximately 106,373 fewer red snapper target trips across all modes. Relative to the **Alternative 1**, **Alternative 3** would be expected to result in a net consumer surplus loss estimated at approximately \$6.00 million. For the charter and headboat sector, combined losses in net operating revenues are estimated at approximately \$3.68 million.

5.4.2 Action 2. Modify the Recreational Bag Limit for Red Snapper

A detailed analysis of the expected economic impacts of alternatives considered for this action is contained in Section 4.2.3. **Preferred Alternative 1** would maintain the red snapper daily possession limit at 2 fish per angler. Therefore, economic effects are not expected to result from **Preferred Alternative 1**. **Alternative 2** would establish a recreational red snapper bag limit of 1 fish per angler per day. Economic effects that would be expected to result from **Alternative 2** would be determined by reductions in consumer surplus that would result from the substitution of angler trips with 1 fish per angler trip for angler trips with 2 red snapper per angler trip and increases in consumer surplus that would result from additional angler trips with 1 red snapper per angler trip. Due to uncertainty about the number of new trips that would be target or non-target trips, and the absence of appropriate estimates of consumer surplus per trip, it cannot be stated whether the net effects of **Alternative 2** relative to **Preferred Alternative 1** would be an increase, decrease, or no change in consumer surplus. **Alternative 3** would decrease the recreational red snapper bag limit to 1 fish per 2 anglers per day. **Alternative 3** would be likely to result in more adverse (or less positive) economic effects relative to **Alternative 2** due to the additional losses in consumer surplus that may be borne by anglers who fish alone or are in a fishing party with an odd number of anglers.

5.5 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources that can be expressed as costs associated with the regulations. Costs associated with this specific action would include:

Council costs of document preparation, meetings, public hearings, and information dissemination.....	\$15,000
NMFS administrative costs of document preparation, meetings, and review	\$10,000
TOTAL.....	\$25,000

The Council and federal costs of document preparation are based on staff time, travel, printing, and any other relevant items where funds were expended directly for this specific action. There are no permit requirements proposed in this regulatory amendment. To the extent that there are no quota closures proposed in this regulatory amendment or other regulatory measures, no additional enforcement activity is anticipated. In addition, under a fixed budget, any additional enforcement activity due to the adoption of this framework action would likely mean a redirection of resources to enforce the new measures rather than an expenditure of new funds.

5.6 Determination of Significant Regulatory Action

Pursuant to Executive Order (E.O.) 12866, a regulation is considered a “significant regulatory action” if it is likely to result in: (1) an annual effect of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this action has been determined to not be economically significant for purposes of E.O. 12866.

CHAPTER 6. REGULATORY FLEXIBILITY ACT ANALYSIS

6.1 Introduction

The purpose of the Regulatory Act Analysis (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of various alternatives contained in the fishery management plan (FMP) or amendment (including framework management measures and other regulatory actions) and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

The RFA requires agencies to conduct a Regulatory Flexibility Act Analysis (RFAA) for each proposed rule. The RFAA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An RFAA is conducted to primarily determine whether the proposed action would have a “significant economic impact on a substantial number of small entities.” The RFAA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; 6) a description and estimate of the expected economic impacts on small entities; and 7) an explanation of the criteria used to evaluate whether the rule would impose “significant economic impacts”.

6.2 Statement of the need for, objective of, and legal basis for the proposed action

The problems and objective of this proposed action are provided in Chapter 1. In summary, the objective of this proposed rule is to set 2013 quotas for the commercial and recreational harvest of red snapper in the Gulf of Mexico that are consistent with the red snapper rebuilding plan in order to achieve optimal yield. The Magnuson-Stevens Fishery Conservation and Management Act provides the statutory basis for this proposed action.

6.3 Description and estimate of the number of small entities to which the proposed action would apply

This rule, if implemented, would be expected to directly affect all commercial and for-hire vessels that harvest red snapper. In addition to needing red snapper individual fishing quota allocation, a commercial reef fish permit is required to harvest red snapper in the Gulf Exclusive Economic Zone (EEZ) in excess of the bag limit to sell red snapper. An estimated 890 vessels possess a valid (non-expired) or renewable commercial reef fish permit. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to 1 year after permit expiration. However, over the period 2007-2011, only an average of 333 vessels per year recorded commercial red snapper harvests. As a result, for the purpose of this assessment, the number of potentially affected commercial vessels is estimated to range from 333-890. The average commercial vessel in the Gulf of Mexico reef fish fishery is estimated to earn approximately \$50,000 (2011 dollars) in annual revenue, while the average vessel with red snapper landings is estimated to earn approximately \$96,000.

A federal reef fish for-hire vessel permit is required for for-hire vessels to harvest red snapper in the Gulf of Mexico EEZ. On November 21, 2012, 1,364 vessels had valid or renewable reef fish for-hire permits. The for-hire fleet is comprised of charterboats, which charge a fee on a vessel basis, and headboats, which charge a fee on an individual angler (head) basis. Although the for-hire permit does not distinguish between headboats and charterboats, an estimated 69 headboats operate in the Gulf of Mexico. As a result, 1,295 of the vessels with valid or renewable reef fish for-hire permits are expected to operate as charterboats. The average charterboat is estimated to earn approximately \$80,000 (2011 dollars) in annual revenue, while the average headboat is estimated to earn approximately \$242,000.

NMFS has not identified any other small entities that would be expected to be directly affected by this proposed action.

The Small Business Administration has established size criteria for all major industry sectors in the U.S., including fish harvesters. A business involved in fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of \$4.0 million (NAICS code 114111, finfish fishing) for all its affiliated operations worldwide. The revenue threshold for a business involved in the for-hire fishing industry is \$7.0 million (NAICS code 713990, recreational industries). All commercial and for-hire vessels expected to be directly affected by this proposed rule are believed to be small business entities.

6.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed action, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records

This proposed action would not establish any new reporting, record-keeping, or other compliance requirements.

6.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed action

No duplicative, overlapping, or conflicting federal rules have been identified.

6.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

This proposed action would be expected to directly affect an estimated 333 vessels that have a valid or renewable reef fish commercial permit and 1,364 vessels that possess a valid or renewable reef fish for-hire permit. The number of commercial vessels that would be expected to be directly affected represents over 37% of the fleet, and the number of for-hire vessels that would be expected to be directly affected represents the entire for-hire fleet. As a result, this proposed action is determined to meet the substantial number criterion.

Significant economic impacts

The outcome of “significant economic impact” can be ascertained by examining two factors: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities expected to be directly affected by the measures in this proposed action are determined for the purpose of this analysis to be small business entities, so the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

A discussion of the expected economic effects of all the actions and alternatives in this proposed amendment is provided in Chapter 4. The proposed action would increase the 2013 red snapper

commercial quota by 194,000 lbs whole weight (ww) (87,997 kg) and the 2013 red snapper recreational quota by 186,000 lbs ww (84,368 kg). The increase in the commercial quota would be expected to result in an increase in gross revenue (ex-vessel revenue minus the 3% cost recovery fee) of approximately \$721,000 (2011 dollars), or approximately \$810-\$2,165 per vessel ($\$721,000/890 \text{ vessels} = \810 per vessel ; $\$721,000/333 \text{ vessels} = \$2,165 \text{ per vessel}$). The expected range in the increase in gross revenue per vessel would be equal to approximately 1.6% ($\$810/\$50,000$) and 2.3% ($\$2,165/\$96,000$) increases in average annual revenue per vessel, respectively.

The increase in the recreational quota would be expected to result in an increase in net operating revenue (gross revenue minus operating costs except for labor) to for-hire businesses of approximately \$502,000 (2011 dollars) for charterboats and approximately \$562,000 for headboats. The projected increase in net operating revenue for charterboats would be expected to be equal to approximately \$388 per vessel ($\$502,000/1,295 \text{ vessels}$) or approximately 0.5% ($\$388/\$80,000$) of average annual revenue per vessel. For headboats, the projected increase in net operating revenue would be expected to be equal to approximately \$8,152 per vessel ($\$562,000/69 \text{ vessels}$) or approximately 3.4% ($\$8,152/\$242,000$) of average annual revenue per vessel.

In summary, this proposed action would be expected to result in a minor increase in the revenues to all directly affected small entities.

6.7 Description of the significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

This proposed action, if adopted, would not be expected to have a significant economic effect on a substantial number of small entities. As a result, the issue of significant alternatives is not relevant.

CHAPTER 7. LIST OF PREPARERS AND AGENCIES CONSULTED

LIST OF PREPARERS (Interdisciplinary planning team)

Name	Expertise	Responsibility	Agency
Carrie Simmons, Ph.D.	Biologist	Co-Team Lead – Amendment development, background, and effects analysis	GMFMC
Cynthia Meyer	Biologist	Co-Team Lead – Amendment development, effects analysis, and cumulative effects analysis	SERO
Susan Gerhart	Biologist	Effects analysis and reviewer	SERO
Assane Diagne, Ph.D.	Economist	Economic analyses	GMFMC
Ava Lasseter, Ph.D.	Anthropologist	Social analyses	GMFMC
David Dale	Biologist	EFH review	SERO
Steven Atran	Biologist	Biological review	GMFMC
Stephen Holiman, Ph.D.	Economist	Economic analyses	SERO
Christina Package	Anthropologist	Social analyses	SERO
Andrew Herndon	Protected Resources	Protected species review	SERO
Shepherd Grimes	Attorney	Legal compliance and review	NOAA GC
Mara Levy	Attorney	Legal compliance and review	NOAA GC
Andrew Strelcheck	Biologist	Scientific analyses	SERO
Noah Silverman	Natural Resource Management Specialist	NEPA compliance	SERO
Brian Linton, Ph.D.	Assessment Analyst	Stock Assessment	SEFSC
Juan Agar, Ph.D.	Economist	Economic analysis and review	SEFSC

GMFMC = Gulf of Mexico Fishery Management Council, SERO = National Marine Fisheries Service Southeast Regional Office, GC = General Counsel, SEFSC = Southeast Fisheries Science Center.

LIST OF AGENCIES CONSULTED

Gulf of Mexico Fishery Management Council's

- Scientific and Statistical Committee
- Socioeconomic Scientific and Statistical Committee

National Marine Fisheries Service

- Southeast Fisheries Science Center
- Southeast Regional Office

NOAA General Counsel

U.S. Coast Guard

Environmental Protection Agency

CHAPTER 8. REFERENCES

Ault, J. S., S. G. Smith, G. A. Diaz, and E. Franklin. 2003. Florida hogfish fishery stock assessment. University of Miami, Rosenstiel School of Marine Science. Contract No. 7701 617573 for Florida Marine Research Institute, St. Petersburg, Florida.

Barnette, M. C. 2001. A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat. NOAA Tech. Memo. NMFS-SEFSC-449. National Marine Fisheries Service. St. Petersburg, Florida.

Cass-Calay, S. L., and M. Bahnick. 2002. Status of the yellowedge grouper fishery in the Gulf of Mexico. Contribution SFD 02/03 – 172. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

EPA. 1999. EPA Region 4: Interim Policy to Identify and Address Potential Environmental Justice Areas. EPA-904-R-99-004

GMFMC. 1981. Environmental impact statement and fishery management plan for the reef fish resources of the Gulf of Mexico and environmental impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20FMP%20and%20EIS%201981-08.pdf>

GMFMC. 1989. Amendment number 1 to the reef fish fishery management plan (includes environmental assessment, regulatory impact review, and regulatory flexibility analyses). Gulf of Mexico Fishery Management Council, Tampa, Florida.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20Amend-01%20Final%201989-08-rescan.pdf>

GMFMC. 2000. Regulatory amendment to the reef fish fishery management plan to set total allowable catch and management measures for red snapper for the 2000 and 2001 seasons. Gulf of Mexico Fishery Management Council, Tampa, Florida.

GMFMC. 2004a. Amendment 22 to the fishery management plan for the reef fish fishery of the Gulf of Mexico, U.S. waters, with supplemental environmental impact statement, regulatory impact review, initial regulatory flexibility analysis, and social impact assessment. Gulf of Mexico Fishery Management Council. Tampa, Florida
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend%2022%20Final%2070204.pdf>

GMFMC. 2004b. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: shrimp fishery of the Gulf of Mexico, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, stone crab fishery of the Gulf of Mexico, coral and coral reef fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coastal migratory

pelagic resources of the Gulf of Mexico and South Atlantic. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf>

GMFMC. 2006. Final amendment 26 to the Gulf of Mexico reef fish fishery management plan to establish a red snapper individual fishing quota program, including supplemental environmental impact statement, initial regulatory flexibility analysis, and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend26031606FINAL.pdf>

GMFMC. 2007. Final Amendment 27 to the reef fish fishery management plan and amendment 14 to the shrimp fishery management plan including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20RF%20Amend%2027-%20Shrimp%20Amend%2014.pdf>

GMFMC. 2008a. Final reef fish amendment 30A: greater amberjack – revised rebuilding plan, accountability measures; gray triggerfish – establish rebuilding plan, end overfishing, accountability measures, regional management, management thresholds and benchmarks including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/docs/amendments/Amend-30A-Final%20208.pdf>

GMFMC. 2008b. Final Amendment 30B: gag – end overfishing and set management thresholds and targets. Red grouper – set optimum yield, TAC, and management measures, time/area closures, and federal regulatory compliance. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Amendment%2030B%2010_10_08.pdf

GMFMC. 2009. Final amendment 31 to the fishery management plan for reef fish resources in the Gulf of Mexico addresses bycatch of sea turtles in the bottom longline component of the Gulf of Mexico reef fish fishery, includes draft environmental impact statement and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Draft%20RF%20Amend%2031%206-11-09.pdf>

GMFMC. 2010. Final regulatory amendment the reef fish fishery management plan to set total allowable catch for red snapper including revised environmental assessment, regulatory impact review, and regulatory flexibility analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Regulatory%20Amendment%203_26_10.pdf

GMFMC. 2011a. Regulatory amendment to the reef fish fishery management plan to set 2011 total allowable catch for red snapper. Gulf of Mexico Fishery Management Council, Tampa, Florida.

<http://www.gulfcouncil.org/docs/amendments/Red%20Snapper%202011%20Regulatory%20Amendment%20-%201-11.pdf>

GMFMC. 2011b. Final generic annual catch limits/accountability measures amendment for the Gulf of Mexico fishery management council's red drum, reef fish, shrimp, coral and coral reefs fishery management plans, including environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

GMFMC. 2012. Final regulatory amendment to the fishery management plan for the reef fish resources of the Gulf of Mexico; revise fall recreational fixed closed season and set 2012 and 2013 quotas for red snapper, including environmental assessment, regulatory impact review, and Regulatory Flexibility Act analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Red%20Snapper%20Fall%20Season%20and%20Quota%20RegAmend%20-%202003-20-2012.pdf>

GMFMC and SAFMC. 1982. Fishery management plan final environmental impact statement for coral and coral reefs. Gulf of Mexico Fishery Management Council. Tampa, Florida. and South Atlantic Fishery Management Council. Charleston, South Carolina.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Coral%20FMP.pdf>

Hamilton, A. N., Jr. 2000. Gear impacts on essential fish habitat in the Southeastern Region. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Pascagoula, Mississippi.

Hood, P. B., A. J. Strelcheck, and P. Steele. 2007. A history of red snapper management in the Gulf of Mexico. Pages 267-284. in W. F. Patterson, III, J. H. Cowan, G. R. Fitzhugh, and D. L. Nieland, editors. Red snapper ecology and fisheries in the U.S. Gulf of Mexico. AFS, Symp 60, Bethesda, MD.

Kennedy, V. S., R. R. Twilley, J. A. Kleypas, J. H. Cowan, Jr., S. R. Hare. 2002. Coastal and Marine Ecosystems and Global Climate Change: Potential Effects on U.S. Resources. Pew Center on Global Climate Change.

Linton, B. 2011. Population projections for Gulf of Mexico red snapper with preliminary 2011 landings estimates. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, FL.

Linton, B. 2012. Population projections for Gulf of Mexico red snapper with preliminary 2012 landings estimates. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, FL.

Muller, R. G., M. D. Murphy, J. de Silva, and L. R. Barbieri. 2003. Final report submitted to the national marine fisheries service, the Gulf of Mexico fishery management council, and the South Atlantic fishery management council as part of the southeast data, assessment, and review (SEDAR) iii. Florida fish and wildlife conservation commission, FWC-FMRI Report: IHR 2003-10. Florida Fish and Wildlife Research Institute. St. Petersburg, Florida.

Newell, R. G., J. N. Sanchirico and S. Kerr. 2005a. Fishing quotas markets. *Journal of Environmental Economics and Management* 4:437-462

Newell, R. G., K. L. Papps and J. N. Sanchirico. 2005b. Asset pricing in created markets for fishing quotas. *Resources for the Future*. RFF DP 05-46. 30p

NMFS. 2002. Status of red grouper in United States waters of the Gulf of Mexico during 1986-2001, revised. Contribution No. SFD-01/02-175rev. National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

NMFS. 2010a. 2010 Recreational Red Snapper Quota Closure Analysis – Fall Reopening. SERO-LAPP-2010-04. Southeast Regional Office, National Marine Fisheries Service. St. Petersburg, Florida. Available at:
http://sero.nmfs.noaa.gov/sf/pdfs/2010_Recreational_Red_Snapper_Quota_Closure_Analysis_Fall_Reopening.pdf

NMFS. 2011. Fisheries Economics of the United States, 2009. U.S. Department of Commerce, NOAA Technical Memorandum. National Marine Fisheries Service-F/SPO-118. Available at:
http://www.st.nmfs.noaa.gov/st5/publication/fisheries_economics_2009.html

NMFS. 2012. Gulf of Mexico 2011 red snapper individual fishing quota annual report. SERO-LAPP-2012-04. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701. 42 pp. Available at:
http://sero.nmfs.noaa.gov/sf/ifq/2011_RS_AnnualReport_Final.pdf.

O'Hop, J., M. Murphy, and D. Chagaris. 2012. The 2012 stock assessment report for yellowtail snapper in the south Atlantic and Gulf of Mexico. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, St. Petersburg, Florida.

Porch, C. E., and S. L. Cass-Calay. 2001. Status of the vermilion snapper fishery in the Gulf of Mexico – assessment 5.0. Sustainable Fisheries Division Contribution No. SFD-01/01-129. National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Porch, C. E., A. M. Eklund, and G. P. Scott. 2003. An assessment of rebuilding times for goliath grouper. Contribution: SFD 2003-0018. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Savolainen, M. A., R. H. Caffey, and R. F. Kazmierczak, Jr. 2012. Economic and Attitudinal Perspectives of the Recreational For-hire Fishing Industry in the U.S. Gulf of Mexico. Center for Natural Resource Economics and Policy, LSU AgCenter and Louisiana Sea Grant College Program, Department of Agricultural Economics and Agribusiness, Louisiana State University, Baton Rouge, LA. 171 p. Available at: <http://www.laseagrant.org/pdfs/Gulf-RFH-Survey-Final-Report-2012.pdf>

Schirripa, M. J., and C. M. Legault. 1999. Status of the red snapper fishery in the Gulf of Mexico: Updated through 1998. SFD-99/00-75. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

SEA (Strategic Environmental Assessment Division, NOS). 1998. Product overview: Products and services for the identification of essential fish habitat in the Gulf of Mexico. NOS, Page 7-62 DEIS for EFH for the Gulf of Mexico FMPs July 2003 Silver Spring MD; National Marine Fisheries Service, Galveston, Texas; and Gulf of Mexico Fishery Management Council. Tampa Florida.

SEDAR 3. 2003. SEDAR peer review of yellowtail snapper assessment, with comments on goliath grouper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 6. 2004a. The hogfish in Florida: Assessment review and advisory report. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 6. 2004b. The goliath grouper in southern Florida: Assessment review and advisory report. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 7. 2005. Stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 7 Update. 2009. Update stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9. 2006a. SEDAR 9 Gulf of Mexico vermilion snapper assessment report 3. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9. 2006b. Stock assessment report of SEDAR 9: Gulf of Mexico gray triggerfish. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9. 2006c. Stock assessment report of SEDAR 9: Gulf of Mexico greater amberjack. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9 Update. 2010. SEDAR 9 stock assessment update report, Gulf of Mexico greater amberjack. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9 Update. 2011a SEDAR update stock assessment of vermilion snapper in the Gulf of Mexico. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9 Update. 2011b. SEDAR update stock assessment of gray triggerfish in the Gulf of Mexico. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 10. 2006. Gulf of Mexico Gag Grouper Stock Assessment Report. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 10 Update. 2009. Stock assessment of gag in the Gulf of Mexico. – SEDAR update assessment. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 12. 2007. SEDAR12-Complete Stock Assessment Report 1: Gulf of Mexico Red Grouper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 12 Update. 2009. Stock assessment of red grouper in the Gulf of Mexico – SEDAR update assessment. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 15A. 2008. Stock assessment report 3 (SAR 3) South Atlantic and Gulf of Mexico mutton snapper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 19. 2010. Stock assessment report Gulf of Mexico and South Atlantic black grouper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 22. 2011a. Stock assessment report Gulf of Mexico yellowedge grouper. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 22. 2011b. Stock assessment report Gulf of Mexico tilefish. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 23. 2011. Stock assessment report Gulf of Mexico and South Atlantic goliath grouper. Southeast Data, Assessment and Review. North Charleston, South Carolina.
<http://www.sefsc.noaa.gov/sedar/>.

SERO-LAPP-2012-11. Southeast Regional Office National Marine Fisheries Service. Estimated Reduction in Gulf of Mexico Recreational Red Snapper Harvest Associated with Various Bag Limits. Southeast Regional Office, St. Petersburg, Florida.

Tampa Bay Times article: USF study finds more sick fish in oil spill area than rest of Gulf of Mexico, January 14, 2012. Available at:

<http://www.tampabay.com/news/environment/wildlife/article1210495.ece>

Turner, S. C., N. J. Cummings, and C. P. Porch. 2000. Stock assessment of Gulf of Mexico greater amberjack using data through 1998. SFD-99/00-100. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Turner, S. C., C. E. Porch, D. Heinemann, G. P. Scott, and M. Ortiz. 2001. Status of the gag stocks of the Gulf of Mexico: assessment 3.0. August 2001. Contribution: SFD-01/02-134. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Valle, M., C. Legault, and M. Ortiz. 2001. A stock assessment for gray triggerfish, *Balistes capriscus*, in the Gulf of Mexico. Contribution: SFD-01/02-124. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Wilson, C. A., and D. L. Nieland. 2001. Age and growth of red snapper, *Lutjanus campechanus*, from the northern Gulf of Mexico off Louisiana. Fishery Bulletin 99(4):653-664.

APPENDIX A. COMERCIAL RED SNAPPER ACL/ACT BUFFER SPREADSHEET

ACL/ACT Buffer Spreadsheet		version 4.1 - April 2011	Red Snapper	
sum of points	0		Commercial - 2013	
max points	5.0		Unweighted	0
		Buffer between ACL and ACT (or ABC and ACL)	Weighted	0
Min. Buffer	0	min. buffer	User adjustable	
Max Unw. Buff	19	max unwt. Buff		
Max Wtd Buff	25	max wtd. buffer	User adjustable	

Component	Element score	Element	Selection	Element result
Stock assemblage	0	This ACL/ACT is for a single stock.	x	0
	1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years	x	0
	1	Catch limit has been exceeded 2 or more times in last 4 years		
		For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL	0.0	
		Not applicable (there is no catch limit)		
		Apply this component to recreational fisheries, not commercial or IFQ fisheries		
Precision of Landings Data Recreational	0	Method of absolute counting		not applicable
	1	MRIP proportional standard error (PSE) <= 20		
	2	MRIP proportional standard error (PSE) > 20		
		Not applicable (will not be included in buffer calculation)	x	
		Apply this component to commercial fisheries or any fishery under an IFQ program		
Precision of Landings Data Commercial	0	Landings from IFQ program	x	0
	1	Landings based on dealer reporting		
	2	Landings based on other		
		Not applicable (will not be included in buffer calculation)		
Timeliness	0	In-season accountability measures used or fishery is under an IFQ	x	0
	1	In-season accountability measures not used		
			Sum	0

Weighting factor				
	Element weight	Element	Selection	Weighting
Overfished status	0	1. Stock biomass is at or above B_{OY} (or proxy).		0.3
	0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).		
	0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (MSST).		
	0.3	4. Stock is overfished, below MSST.	x	
	0.3	5. Status criterion is unknown.		

APPENDIX B. RECREATIONAL RED SNAPPER ACL/ACT BUFFER SPREADSHEET

ACL/ACT Buffer Spreadsheet			version 4.1 - April 2011	Red Snapper	
sum of points	7.5			Recreational - 2013	
max points	9.5			Unweighted	15
Min. Buffer	0	min. buffer	User adjustable	Weighted	20
Max Unw. Buff	19	max unwt. Buff			
Max Wtd Buff	25	max wtd. buffer	User adjustable		
Component	Element score	Element	Selection	Element result	
Stock assemblage	0	This ACL/ACT is for a single stock.	x	0	
	1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage			
Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years		5.5	
	1	Catch limit has been exceeded 2 or more times in last 4 years	x		
		For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL	4.5		
		Not applicable (there is no catch limit)			
Apply this component to recreational fisheries, not commercial or IFQ fisheries					
Precision of Landings Data Recreational	0	Method of absolute counting		1	
	1	MRIP proportional standard error (PSE) <= 20	x		
	2	MRIP proportional standard error (PSE) > 20			
		Not applicable (will not be included in buffer calculation)			
Apply this component to commercial fisheries or any fishery under an IFQ program					
Precision of Landings Data Commercial	0	Landings from IFQ program		not applicable	
	1	Landings based on dealer reporting			
	2	Landings based on other			
		Not applicable (will not be included in buffer calculation)	x		
Timeliness	0	In-season accountability measures used or fishery is under an IFQ		1	
	1	In-season accountability measures not used	x		
			Sum	7.5	
Weighting factor					
	Element weight	Element	Selection	Weighting	
Overfished status	0	1. Stock biomass is at or above B_{OY} (or proxy).		0.3	
	0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).			
	0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (MSST).			
	0.3	4. Stock is overfished, below MSST.	x		
	0.3	5. Status criterion is unknown.			

APPENDIX C. OTHER APPLICABLE LAW

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) provides the authority for management of stocks included in fishery management plans in federal waters of the exclusive economic zone. However, management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the Act, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the Federal Register and to solicit, consider, and respond to public comment on those rules before they are finalized. The Act also establishes a 30-day waiting period from the time a final rule is published until it takes effect.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state’s coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state’s coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary, NMFS will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Data Quality Act

The Data Quality Act (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget to issue government wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3) report periodically to Office of Management and Budget on the number and nature of complaints received.

Scientific information and data are key components of FMPs and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Fishery Conservation and Management Act. To be consistent with the Act, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NMFS, when proposing an action for managed stocks that “may affect” critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions may affect but are “not likely to adversely affect” endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are “likely to adversely affect” endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives. The NMFS, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

On September 30, 2011, the Protected Resources Division released a biological opinion which, after analyzing best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC 252 oil release event in the northern Gulf of Mexico), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf of Mexico reef fish fishery is also not likely to jeopardize the continued existence of green, hawksbill, Kemp’s ridley, leatherback, or loggerhead sea turtles, nor the continued existence of smalltooth sawfish (NMFS 2011).

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs.

Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as “depleted,” and a conservation plan is developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fishing activities, and studies of pinniped-fishing activity interactions.

Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries that places all U.S. commercial fishing activities into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishing activity. The categorization of a fishing activity in the List of Fisheries determines whether participants in that fishing activity may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure the public is not overburdened with information requests, the federal government’s information collection procedures are efficient, and federal agencies adhere to appropriate rules governing the confidentiality of such information. The Act requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishing activity information from the public. None of the alternatives in this amendment are expected to create additional paperwork burdens.

Executive Orders (E.O.)

E.O. 12630: Takings

The E.O. on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and

actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

E.O. 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Analysis. A regulation is significant if it: 1) Has an annual effect on the economy of \$100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments and communities; 2) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; 3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

This E.O. mandates that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions.

E.O. 12962: Recreational Fisheries

This E.O. requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council (NRFCC) responsible for, among other things, ensuring that social and economic values

of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The NRFCC also is responsible for developing, in cooperation with federal agencies, States and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

E.O. 13089: Coral Reef Protection

The E.O. on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for Essential Fish Habitat (GMFMC 2005a), which established additional habitat areas of particular concern (HAPCs) and gear restrictions to protect corals throughout the Gulf of Mexico. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The E.O. on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

E.O. 13158: Marine Protected Areas

This E.O. requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource

within the protected area. There are several marine protected areas, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf. The existing areas are entirely within federal waters of the Gulf of Mexico. They do not affect any areas reserved by federal, state, territorial, tribal or local jurisdictions.

Essential Fish Habitat

The amended Magnuson-Stevens Fishery Conservation and Management Act included a new habitat conservation provision that requires each existing and any new FMPs to describe and identify essential fish habitat (EFH) for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements the Council has, under separate action, approved an environmental impact statement (GMFMC 2004b) to address the new EFH requirements contained within the Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH.

These actions are not expected to change the way in which the fisheries are conducted in regard to the impact of the fisheries on the environment. The actions, considered in the context of the fisheries as a whole, will not have an adverse impact on EFH; therefore, an EFH consultation is not required. The basis for this determination is described in a memorandum (attached) dated March 15, 2013.

References for Appendix C

GMFMC. 2004b. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: shrimp fishery of the Gulf of Mexico, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, stone crab fishery of the Gulf of Mexico, coral and coral reef fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coastal migratory pelagic resources of the Gulf of Mexico and South Atlantic. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf>

GMFMC. 2005a. Generic amendment number 3 for addressing essential fish habitat requirements, habitat areas of particular concern, and adverse effects of fishing in the following fishery management plans of the Gulf of Mexico: shrimp fishery of the Gulf of Mexico, United States waters, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, coastal migratory pelagic resources (mackerels) in the Gulf of Mexico and South Atlantic, stone crab fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coral and coral reefs of the Gulf of Mexico. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/FINAL3_EFH_Amendment.pdf

NMFS. 2011. Biological Opinion on the Continued Authorization of Reef Fish Fishing under the Gulf of Mexico Reef Fish Fishery Management Plan. September 30, 2011. Available at: <http://sero.nmfs.noaa.gov/pr/esa/Fishery%20Biops/03584%20GOM%20Reef%20Fish%20BiOp%202011%20final.pdf>

APPENDIX D. SUMMARIES OF PUBLIC COMMENTS RECEIVED

Framework Action - 2013 Red Snapper Quotas and Bag Limit

Written comments received to date on the framework action are posted on the Council website and are summarized below:

- ❖ It will not be worthwhile to fish if the bag limit is reduced to one snapper.
- ❖ Council is intentionally considering reducing the bag limit to reduce the number of people who are willing to fish.
- ❖ If the bag limit is reduced, it will be harder to get it raised in the future.
- ❖ A 1 fish bag limit will kill the charter industry because people won't pay to keep one fish.
- ❖ Action 1, Alternative 2- the 2013 recommended quota should be used.
- ❖ The bag limit should remain at 2 fish.
- ❖ Reduce the bag limit to one fish and increase the number of days.
- ❖ 1 fish and 60 days is a reasonable season for spearfishing.
- ❖ A weekend season with a 2 fish bag should be considered.
- ❖ There is no need for a reduction in bag limit or season.
- ❖ A 3 fish bag limit should be adopted.
- ❖ We need a 6 month season with a two fish bag limit.
- ❖ 1 fish for 2 anglers (1/2 fish bag limit) is absolutely ridiculous and unrealistic.
- ❖ The bag limit should be increased not decreased.

Additional Comments

- ❖ A tag system should be proposed.
- ❖ Snapper are abundant and the stock assessment is wrong.
- ❖ Due to restrictive regulations 8 – 10 pound fish are being culled so that fishermen can keep the bigger ones.
- ❖ Red snapper are out competing other fish species.
- ❖ No new management should be considered until the science is corrected.
- ❖ A slot limit should be considered.
- ❖ Virtually all anglers all culling and only keep larger fish; this may contribute to the high total mortality of the stock.
- ❖ Recreational red snapper should be managed in numbers of fish not pounds.
- ❖ Council should stop the destruction of oil rigs.
- ❖ Fishermen should report catches by telephone.
- ❖ Close the season when fish are spawning to protect the population.

**The full text of public comments received before 2/7/2013 can be found online at- <http://bit.ly/X8d0jc> – and those comments emailed, faxed, or mailed can be found at- <http://bit.ly/12yZN5k>